

THE *Soybean Digest*



Signing of historic global contract between the Soybean Council and USDA's Foreign Agricultural Service, covering soybean market promotion on a worldwide scale. Forty-five countries were named in the contract. See page 25.

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Objectives of the American Soybean Association include the bringing together of all persons interested in the production, distribution and utilization of soybeans; the collection and dissemination of the best available information relating to both the practical and scientific phases of the problems of increased yields coupled with lessened costs; the safeguarding of production against diseases and insect pests; the promotion of the development of new varieties; the encouragement of the interest of federal and state governments and experiment stations; and the rendering of all possible services to the members of the Association.



EDITOR'S DESK

By GEO. M. STRAYER

WHY CHANGE SUPPORT LEVEL? Revised parity figures on most crops will be issued by USDA within a few days. Shortly after that date consideration will be given to support price levels on 1960-crop soybeans. Conferences have already been held with USDA officials by ASA officials pertaining to the 1960 figure.

Proper relationship between corn, cotton and soybean prices must be maintained. It now appears that stocks of soybeans at the end of the 1959-crop year will be rather negligible. 1960 corn supports, in terms of price, will go downward. Cotton acreage allotments will move upward. If we want to maintain soybean acreage at 1959 levels, or increase it slightly, a more favorable support price relationship with corn will be necessary. Sales of hybrid seed corn by the seed companies are running well ahead of a year ago, indicating an increase in corn acreage. At least some of that increase may come out of soybeans.

Proper analysis of all factors influencing soybean acreage and price must be carefully made before the 1960 soybean support price is determined. The board of directors of the American Soybean Association has recommended a 1960-crop price support level of not less than \$1.85 per bushel, national average. It seems rather generally agreed that figure will secure little if any increase in soybean acreage in 1960, in spite of the lowering of corn supports.

Our industry has always maintained that support prices should be used as disaster insurance only—that soybeans should be allowed to find their own levels of consumption in domestic and world markets, based on value. We have a price situation which is advantageous to producers, we have an active market which is allowed to reflect demand and supply, and we can see no reason for any change in the 1960 soybeans supports.

PROMISE IN RELIEF FEEDING U. S. soybean oil is moving into world markets for dollars. More and more countries are joining the list of those to whom it has now become profitable to use soybean oil in margarine, shortenings, and other products.

But we have a vast amount of work to do in acquainting people of the world with soybean oil. Vast millions of people have never seen, tasted, smelled or used soybean oil. They will not buy it until they become acquainted with it. How do they do so?

One of the very exciting avenues of approach

would be through relief feeding channels in foreign countries, as conducted by the church and religious groups. Millions of people could be reached with small quantities of soybean oil, could become acquainted with it, learn to know it, and to like it. Experience gained in Spain, Italy and other countries which a few years ago would not accept soybean oil, and where it is today eagerly accepted, indicates that the same reaction can be expected in many other areas of the world.

How do we do it? The mechanism is already provided. The Secretary of Agriculture has the authority to purchase commodities for relief feeding purposes. He is doing so on corn meal, flour, dried milk powder. No new machinery, laws or regulations are necessary. If the White House would give a favorable nod the program could be instituted tomorrow. A previous attempt to institute the program was torpedoed at the White House level.

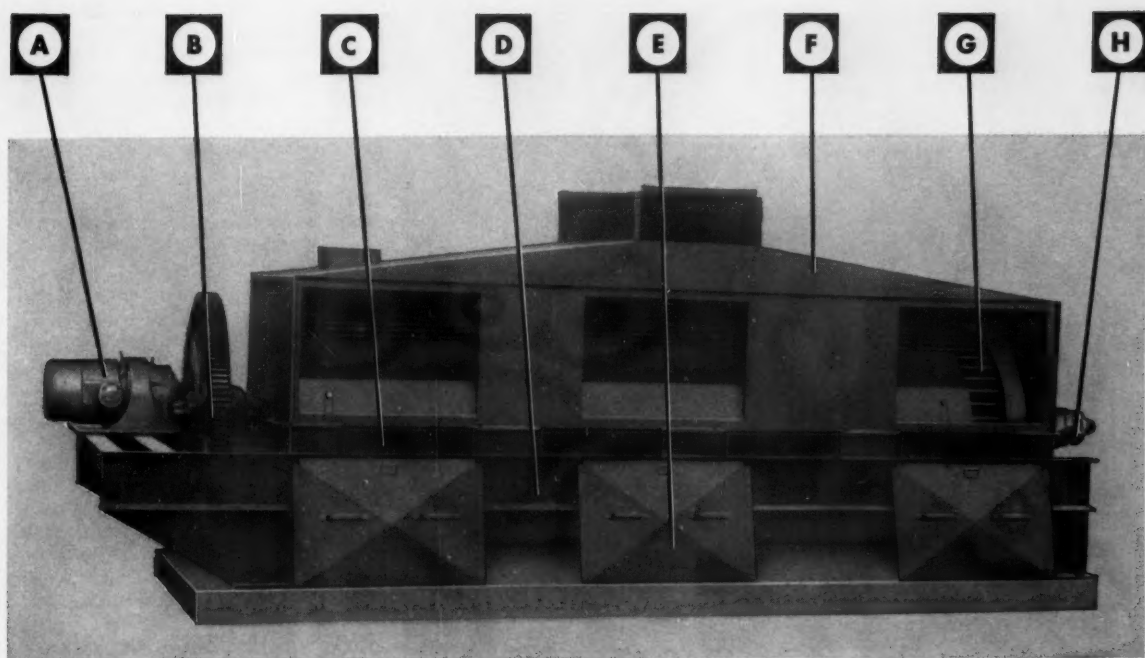
In an election year—with vast tonnage of soybean oil backing up here in the United States—with need for meal for livestock feeding—with renewed enthusiasm of the President following his visits to some of the underdeveloped areas of the world—it would appear only logical to institute a program of purchase of soybean oil for relief feeding purposes. Money is available.

What better and cheaper piece of market development work could be instituted? To create new markets for soybean oil? I know of none.

LET'S DO THE JOB OURSELVES

Morning glory seed is still a problem in shipments of U. S. soybeans to Japan. A major market is at stake, and we must provide the mechanism for assuring Japanese buyers they are not going to have the expense of cleaning cargoes of beans before they are allowed to go into the Japanese economy.

Every cargo of beans going to Japan now is sampled and graded by at least two agencies—the local grain grading agency and then the Federal Appeal officials. To me it makes only good sense to in some way provide on the Federal Appeal certificate a determination of morning glory and/or bindweed seed content—when requested in the purchase contract. Are our grain grading system and our certificate so high and mighty that they cannot be changed to fit today's needs? When today's needs demand a determination of morning glory seed content? Why does it take us so long to agree to do what is necessary?



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—Photo by A. H. Probst

FIELD OF Lindarin soybeans on Biddle Farms, Remington, Ind. That's Chet Biddle, former American Soybean Association president (left), discussing the crop with John E. Bligh, Queensland, Australia, farmer.

Soybean Varieties

The best varieties to grow state by state

CHOOSING good seed of the right soybean variety is a highly important step in profitable soybean production.* Registered or certified seed of the recommended varieties is available annually. Foundation seed is maintained for extensively used varieties.

See list of seed sources in "Seed Directory" on page 38 of this issue. Or contact your county agricultural agent or state crop improvement association for seed sources in your area.

Soil conditions, rotations, and time of planting are all important considerations in choosing a variety. Soybean varieties are especially sensitive to changes in latitude, and some are better adapted than others to certain local conditions. The map on page 9 shows in a general way the latest recommendations of agronomists in the soybean growing regions of the United States. For

more details and for suggestions concerning your immediate locality contact your county agent or your state extension service.

The same variety usually matures earlier on light or sandy soils than on clay, loam or muck soils. When soybeans are planted following small grain or other crops, or when small grain follows soybeans, an early maturing soybean variety is required.

When planting is delayed unduly, early maturing varieties usually will give best yields, and mature early enough for combining in good weather. Generally, the latest maturing variety that matures without frost injury will give highest yields under most conditions.

Combining may be extended through more favorable weather by the use of two or more varieties differing in maturity. This is important when a large acreage of soybeans is grown.

The following information on varieties by states has been supplied

by experiment station agronomists. Varieties are arranged in order of maturity.

For individual variety descriptions see "Leading Soybean Varieties" for Northern and Southern States on page 11.

Illinois

Chippewa is recommended for the northern fringe of Illinois.

The high yielding, early maturing Harosoy should find competition in **Lindarin**, a very new variety not to be generally available until 1961. Lindarin, though not quite so high in yield, has far better resistance to lodging.

Harosoy is the most popular variety in the northern half of the state, and it made up 33% of last year's soybean acreage.

Adams generally outyields Hawk-eye in central Illinois and in some cases Harosoy. But it's thought that Shelby will take over part of the Adams acreage.

One of the newer things in soybeans for Illinois farmers this com-

*Much of this introductory material will appear in Purdue University revised Bulletin 231, Soybeans in Indiana.

ing season will be **Shelby**, a variety to be available in quantity for the first time. **Shelby** has been consistently high in yield trials in central and south central Illinois. R. L. Bernard thinks there is a big place for it in the southern half of the state where farmers want a variety earlier than **Clark**.

Clark, which matures a week later than **Shelby**, is the current king in southern Illinois. It accounted for 22% of soybean acreage in 1959, and in southern trials it generally out-yields all others.

Indiana

Chippewa is the earliest maturing variety recommended in Indiana. Best suited for planting on muck and marshland soils in northern Indiana, or where a variety earlier than **Lindarin** or **Harosoy** is desired, especially for delayed planting in June.

Blackhawk is similar to **Chippewa** in yield but considerably lower than **Lindarin**. Recommended where *Phytophthora* rot is serious, since it is resistant to this disease. Purdue University recommends that one-third **Blackhawk** seed be blended with two-thirds **Lindarin**, **Harosoy** or **Hawkeye** seed. The blend will permit near maximum yield when the rot is not serious and prevent failure when the rot is serious.

Lindarin is best suited as a full-season variety in northern Indiana and for June and delayed planting in the north central area. Resistant to downy mildew which has been serious in the Kankakee Valley area. Has low susceptibility to stem canker and less seriously affected by *Phytophthora* rot than **Harosoy**.

Harosoy is best adapted as a full-season variety in north central Indiana and for delayed planting in the northern portion of the south central area. The state's leading variety in 1958. Somewhat higher in yield than **Hawkeye** in most tests but lower than **Lindarin** in northern area. Resistant to downy mildew and frogeye leafspot, and low susceptibility to stem canker. Highly susceptible to *Phytophthora* rot.

Hawkeye is well adapted in the north central and much of the southern areas of Indiana. Has good lodging resistance but very susceptible to stem canker and so has lost popularity.

Shelby is best suited for a full-season variety in the north and south central areas and for delayed planting after June 20 in southern Indiana. Should prove useful as a companion variety to earlier maturing varieties and to the later matur-

ing **Clark** to help spread the combining season and to reduce production hazards due to weather extremes. Resistant to frogeye leafspot.

Lincoln is expected to be replaced by **Shelby** which has consistently outyielded it.

Clark, the latest maturing variety recommended in Indiana, is best suited in southern and south central Indiana. Has outyielded most other varieties in Indiana tests. More lodging resistance than **Shelby**. Pods well up from the ground. Plant early in May for best results in north central Indiana.

Kingwa, black-seeded, is the best hay variety for the southern two-thirds of the state. Has fine stems and holds its leaves after maturing. **Lincoln** and **Shelby**, drilled thickly to decrease stem size, make better hay varieties in northern Indiana.

Ohio

On very rich soils, varieties need excellent lodging resistance to permit satisfactory combining. All recommended varieties are susceptible to *Phytophthora* rot except **Monroe** and **Blackhawk**.

Chippewa should be confined to northern Ohio as an early variety to precede wheat.

Monroe and **Blackhawk** should be confined to northern and central Ohio as early varieties to precede wheat. They are resistant to *Phytophthora* rot and **Blackhawk** is moderately resistant to stem canker. **Monroe** is only slightly susceptible to stem canker.

Lindarin, **Harosoy** and **Hawkeye** can be grown in any part of the soybean growing areas of Ohio. **Harosoy** is moderately resistant to stem canker. **Hawkeye** is susceptible to stem canker.

Ford is best adapted to central and southern Ohio.

Shelby and **Lincoln** should be confined to the central and southern parts of Ohio. **Lincoln** is slightly susceptible to stem canker.

Clark is recommended for southern Ohio as a full season crop.

Iowa

Grant is not suited as a full season variety in Iowa. Should be used only when planting has been delayed.

Chippewa is well adapted to the northern two tiers of Iowa counties. Has the best performance record of any variety in its maturity class. Can be used farther south when planting has been delayed.

THE MATURITY, OR COMBINING, DATE OF THE NINE SOYBEAN VARIETY GROUPS WHEN THEY ARE GROWN IN THEIR AREAS OF ADAPTATION

Group	Maturity date (average for group)	Days from planting	Leading varieties—in order of earliness within a group
O	Sept. 28	126	Flambeau, Norchief, Capital, Grant, Mandarin (Ottawa).
I	Sept. 30	126	Chippewa, Renville, Monroe, Blackhawk.
II	Oct. 3	130	Harosoy, Lindarin, Hawkeye.
III	Oct. 3	131	Adams, Ford, Shelby, Lincoln.
IV	Oct. 7	139	Clark, Wabash, Perry, Scott.
V	Oct. 7	136	Dorman, S-100, Dortchsoy 67.
VI	Oct. 22	148	Hood, Ogden, Lee.
VII	Oct. 30	156	Roanoke, Jackson.
VIII	Nov. 9	158	Bienville, J.E.W. 45, Improved Pelican.

PLANTING DATES FOR SOYBEANS IN MAJOR PRODUCING STATES

State	Maturity classification of varieties grown	For best results, plant on—	Do not plant later than—
Alabama	VI, VII, VIII	May 10 to June 15	July 10
Arkansas	V, VI, VII	May 1 to 20	June 30
Delaware	III, IV, V, VI	May 10 to 30	June 30
Florida	VI, VII, VIII	June 1 to 30	July 15
Georgia	VI, VII, VIII	May 1 to June 15	July 10
Illinois	I, II, III, IV	May 5 to 25	June 30
Indiana	I, II, III, IV	May 5 to 25	June 30
Iowa	I, II, III	May 1 to 30	June 30
Kansas	III, IV, V	May 10 to June 15	June 30
Kentucky	IV, V, VI	May 1 to 30	June 30
Louisiana	VI, VII, VIII	May 10 to June 15	July 10
Maryland	IV, V, VI	May 15 to 30	June 30
Michigan	O, I, II	May 5 to 30	June 30
Minnesota	O, I, II	May 10 to 30	June 30
Mississippi	V, VI, VII	May 1 to June 15	July 5
Missouri	II, III, IV, V, VI	May 5 to 30	June 30
Nebraska	I, II, III	May 15 to June 5	June 30
North Carolina	VI, VII	May 1 to 30	June 30
North Dakota	O	May 15 to 30	June 20
Ohio	I, II, III	May 5 to 25	June 30
Oklahoma	V, VI	May 10 to 30	June 30
South Carolina	VI, VII, VIII	May 1 to 20	June 30
South Dakota	O, I, II	May 10 to 30	June 30
Tennessee	IV, V, VI	May 1 to 25	June 30
Virginia	IV, V, VI	May 15 to June 15	June 30
Wisconsin	O, I, II	May 5 to 30	June 30

From Farmers' Bulletin 2129

Blackhawk is suggested for the northern two tiers of Iowa counties. Yields and stands up very well and is tall enough for easy combining. Can be used in central Iowa when planting has been delayed.

Harosoy. Suggested for northern and central Iowa. Compares favorably with Hawkeye in all characteristics except 4 days earlier.

Lindarin averages 4 to 5 inches shorter than Harosoy, lodges less and compares favorably with it in all other characteristics.

Hawkeye is the most widely grown variety in the northern half of Iowa, where it should be planted May 10-20. Suited to southern Iowa for delayed planting.

Adams is adapted to central and south central Iowa. Has the same height but stands up a little better and has a higher oil content than Lincoln.

Ford is suggested for the five tiers of counties in north central and south central Iowa. A new variety. Ample supplies of seed should be available for this spring's planting. Outyields Adams and Lincoln, lodges less and has about the same height. Should replace all Lincoln acreage and some acreage of Adams, Hawkeye and Clark.

Shelby is adapted to southern and central Iowa. Has about the same height and lodging resistance as Ford. In the northern area of adaptation Ford outyields Shelby while in the southern area the reverse is true. Both have given superior performance to Adams and Lincoln.

Clark is suggested for the southern three tiers of Iowa counties. Outyields Adams and Lincoln by nearly 5 bushels per acre, is the same height and stands up well. Outyields Ford about 2½ bushels per acre but matures about 8 days later.

Missouri

Harosoy has done well in the northern third of Missouri. Well adapted where wet weather has caused late spring seeding. Has a marked tendency to lodge, though about the same height as Hawkeye. Seeds do not shatter as badly as Hawkeye.

Hawkeye is adapted to good soils of the northern third of Missouri. Four to 6 inches shorter than Lincoln. Its short growth is an advantage on heavy soils but a disadvantage on light soils. Has a tendency to shatter badly if harvesting is delayed.

Adams has been erratic in performance in the state. Has not yielded quite as well as Hawkeye

or Lincoln. Probably will be replaced by Shelby.

Lincoln produces good yields in the northern third and on the more productive soils in central Missouri. Is medium in height and stands well.

Shelby is a full-season variety for north Missouri and for late plantings in central Missouri. Similar to Clark in plant type, disease resistance, and appearance and chemical composition of the seed. Superior to Lincoln in resistance to shattering. Yields slightly better than Lincoln but not quite as well as Clark.

Clark is adapted to the northern two-thirds of Missouri. Will mature in time for normal seeding of wheat in northern part of state. Considered a full season variety in the northern two tiers of counties. Well liked for its non-shattering.

Scott is adapted to south Missouri and an early bean in southeast Missouri. Taller than Clark or Dorman, but stands well. Has outyielded both varieties in southwest Missouri. Has good quality seed, is resistant to bacterial pustule and wildfire.

Hill is adapted to the south and southeast delta area of Missouri. A high yielding variety, resistant to shattering. Resistant to bacterial pustule, wildfire, frogeye, and all leaf diseases that are troublesome most years, and to purple stain. Very similar to Lee except seed slightly smaller. Slightly shorter than Dorman and stands better.

Dorman is adapted to the southern third of Missouri. Yields proportionately better on the heavy soils. Similar to Ogden in height and plant type, but does not stand quite as well. Seed is usually of good quality and high in oil content.

Hood is expected to replace Ogden in southeast Missouri. Has better seed qualities and yields about the same.

Ogden is recommended primarily for the southeast lowlands. The olive green seeds are high in oil content.

Lee is recommended only for the southern part of the Bootheel. Stands well and produces high quality seed with a high oil content.

Minnesota

Acme is recommended for northern Minnesota and the northern corn maturity zone. Yields well in its maturity group and has good oil content.

Flambeau is recommended for central, north central and northern corn maturity zones. Rather short with a considerable tendency to lodge but a good yielder among the early varieties.

Merit was added to Minnesota recommended varieties for central and north central maturity zones last Nov. 30. Rather tall for its early maturity and good resistance to lodging. Very good yielding ability. High oil content.

Norchief is recommended for central and north central corn maturity zones, and about southern one-half of the northern zone. Fairly short in growth with good resistance to lodging.

Comet is recommended as an early variety in the south central and southern corn maturity zones, where it has yielded well. Has unusual combination of earliness, good plant height, and good resistance to lodging.

Grant is best adapted as a full season variety to the central zone. Recommended for central, south central, southern, and north central corn maturity zones.

Ottawa Mandarin is recommended in all areas of the state south of the northern corn maturity zone. It is short and highly resistant to lodging. Oil content medium.

Capital is recommended for areas south of the northern corn maturity zone and particularly for the central zone. Good oil content.

Chippewa is recommended for the south central and southern corn maturity zones and southern one-third of the central zone. Superior in yielding ability and good oil content.

Harosoy is recommended only in the southern corn maturity zone. Good yields in southern Minnesota. Taller than Chippewa and lodges more.

South Dakota

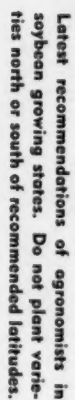
Grant, **Ottawa Mandarin**, and **Capital** are the earliest recommended varieties in South Dakota, and are adapted to the northern area of the state. Grant has proved to be a superior early variety. It has medium plant height, good lodging resistance and a high yield record.

Chippewa is adapted in the eastern central counties and in the more favorable soybean areas in the northeastern counties. It stands very erect and is a high yielder.

Blackhawk is adapted primarily to the region bounded by Brookings and Kingsbury Counties on the north and Turner and Lincoln Counties on the south. Can be grown in low altitude areas in northeastern counties. It stands well, bears pods not too close to the ground and has given uniformly high yields.

Lindarin is adapted in the southeast counties. High yielding, plants

9



medium in height and erect. Good resistance to lodging and seed shattering. Seeds usually of high quality and oil content high.

Harosoy is adapted in the eastern counties south of Highway 16. May have a tendency to lodge under some conditions.

Hawkeye is recommended for the southeast counties. Stands erect, bears pods high enough for convenient combining and gives high yields.

Ford is recommended only for the very southeast area. Plant height tall and erect. Good lodging resistance. A high yielder and produces high quality beans.

Mississippi

Lee is the variety best adapted for production in Mississippi except for limited acreage in south. Produces higher seed yields in the Delta area, both on the clay and sandy loam soils, than any other variety available. Will mature Oct. 15-20.

Hood is adapted for planting on both clay and sandy loam soils. Has averaged 5% lower in seed yield than Lee in Delta tests.

Hill is a new early variety maturing about Sept. 20. Seed stocks limited for 1960 planting. Better adapted for planting on clay than on sandy loam soils, but yields have averaged approximately 5% below Lee on clay. While Hill has produced excellent yields, growers are cautioned weeds are more difficult to put through a combine in late September than in late October. Hill should not be planted on land heavily infested with Johnsongrass, coffee weeds or other heavy growth.

Dorman is similar in maturity to Hill and is expected to be replaced by Hill. Yields about 10% less than Hill and does not stand as well.

Jackson is the variety best adapted for south Mississippi. Average yield 7% below Lee in the Delta. Suggested for Delta growers who like more plant growth than is provided by Lee.

Kentucky

Lincoln is the earliest variety recommended for Kentucky. Useful when early harvest desired because of land condition, marketing program or to stretch harvest period. Resistant to frogeye leafspot. May shatter when left in field past harvest date.

Clark has proved to be outstanding for Kentucky, with over 85% of the acreage estimated planted to this variety in 1959. Seed quality was affected in 1959 because of disease, influenced by heavy rainfall during

the summer. Similar to Wabash in maturity and resistant to frogeye leafspot.

Wabash is one of the earliest varieties recommended for Kentucky but is being replaced by the superior Clark. Exceptional seed quality.

Perry is a full-season variety for most of Kentucky, about 30 days earlier than Ogden. Spreading growth assists in weed control. Close second to Clark in seed yield.

Hood is expected to replace Ogden. In same maturity range and slightly superior to Ogden in seed yield, quality and oil content. Well adapted to western Kentucky for conditions warranting use of a tall vigorous growing variety having ground cover to shade weeds. Matures about the usual time of killing frost which avoids harvesting difficulties due to heavy growth of live weeds.

Ogden is recommended only in western Kentucky where it has been very popular. Oil content probably lower than other varieties. Will be replaced by Hood.

South Carolina

Soybeans are grown in both single and double cropping systems in the state. Generally, highest yields are produced when the crop is planted early in a single cropping system but good yields are also produced in the southeastern and lower Coastal areas of the state when long season varieties are planted after small grain.

Lee is a relatively early variety suited only for fertile soils and planting between May 15 and June 10. Seed small (3,500 per pound).

Jackson has a wide range of soil adaptation, including light soils. Best suited for early planting. Seed medium in size (2,900 per pound).

C.N.S. 4 is adapted to a wide range of soil conditions and planting dates. The most widely grown variety in the state. Seed small.

J.E.W. 45 and **Yelnanda** are late maturing varieties especially adapted for planting after small grain. Seed large (2,500 to 2,600 per pound).

Michigan

Norchief is recommended for northern areas and muck soil. Some resistance to bacterial blight.

Chippewa is an excellent early variety for southern Michigan, and a good full-season bean in north central Michigan. Under ordinary conditions you could plant wheat after soybean harvest on well drained soils as far north as Lansing and in Gratiot County. Compares favorably in yield with later varieties

when planted in 28-inch or narrower rows.

Blackhawk has wide adaption and is resistant to Phytophthora root rot. Midseason variety for central Michigan. Ordinarily, wheat could be planted after soybean harvest in Monroe and Lenawee Counties.

Harosoy is recommended for the southern tier of Michigan counties. May mature in parts of central Michigan and Saginaw Valley if planted early on well drained soil. One of least susceptible varieties to stem canker.

Hawkeye is for the southern tier of counties. Reliable variety with good yield record and lodging resistance. Some resistance to bacterial blight.

Wisconsin

More promising varieties include:

Flambeau is recommended for the northern part of Wisconsin where Norchief may be too late. Lodges more than Norchief. Yield also lower.

Norchief is very early and superior to Flambeau. Oil content about 20%.

Chippewa pods higher from the ground than other early varieties.

Blackhawk is adapted to the 105-110 corn maturity belts; also for late planting farther south and hay production farther north. High yielding. Medium tall, stands up well and bears pods well off the ground.

Less promising varieties for Wisconsin are Grant, Harosoy, Hawkeye, Lincoln, and Monroe.

New Jersey

Hawkeye is high yielding, has very stiff straw and stands better than any other adapted variety. Occupies about 3% of the state's acreage.

Lincoln is high yielding, high oil, non-shattering and with fair standability. Occupies about 7% of acreage.

Clark is a full-season variety occupying about 90% of the soybean acreage in New Jersey. Yield and standability better than Lincoln. Excellent for forage.

Ontario

Harosoy occupies about 75% of the soybean acreage in Ontario, and in some districts approaches 100% of the crop. Widely accepted by growers on account of favorable maturity and good yielding ability. Some acreage is devoted to Chippewa and Blackhawk which are earlier than Harosoy, and Harman and Lincoln which are later. Still earlier varieties used are Hardome, Capital, Mandarin, Comet and Flambeau.

Leading Soybean Varieties

Characteristics and performance of most widely grown varieties.
List prepared by agronomists in soybean producing states

NORTHERN VARIETIES

(listed in order of maturity)

Acme is approximately 10 days earlier than Flambeau. It has gray pubescence (short hairs on stem, leaves and pods), purple flowers and yellow seed and hilum (seed scar). Normally two to three seeds per pod. Grows erect, strong straw.

Crest, developed by the Central Experiment Farm, Ottawa, Ontario, Canada, from a cross between ND8-291 (Manitoba Brown x Mandarin) x Mandarin; released in 1958; matures 4 to 7 days earlier than Flambeau. Gray pubescence, purple flowers, yellow seeds and a yellow hilum.

Flambeau, developed by the Wisconsin Agricultural Experiment Station from a Russian introduction; released in 1944; the earliest maturing recommended variety grown in the United States. Brown pubescence, purple flowers, yellow seeds with a black hilum.

Goldsoy, developed by the Ontario Agricultural College as a selection from O.A.C. No. 211; released about 1940; matures 2 days later than Flambeau; characterized by poor resistance to lodging. Gray pubescence, purple flowers, yellow seeds with a yellow hilum.

Norchief, developed by the Wisconsin Agricultural Experiment Station in cooperation with the U. S. Regional Soybean Laboratory from the cross Flambeau x Hawkeye; released in 1954; matures 1 day later than Goldsoy; an erect, high yielding, high-oil-content variety for the far northern United States. Brown pubescence, purple flowers, yellow seeds with a black hilum.

Comet, developed by the Division of Forage Plants, Central Experimental Farm, Ottawa, Ontario, Canada, from the cross Pagoda x Mandarin; released in 1954; matures 2 days later than Norchief. Gray pubescence, purple flowers, yellow seeds with a yellow hilum.

Grant, developed by the Wisconsin Agricultural Experiment Station in cooperation with the U. S. Regional Soybean Laboratory, from the cross Lincoln x Seneca, released in 1955; matures 2 days later than Comet; a high yielding, high-oil-content variety with medium lodging resistance. Light brown pubescence,

white flowers, yellow seeds with a black hilum.

Mandarin (Ottawa), developed by the Central Experimental Farm, Ottawa, Ontario, Canada, as a selection from Mandarin; released about 1930; matures at the same time as Grant. Gray pubescence, purple flowers, yellow seeds with a yellow hilum.

Hardome, developed by the Dominion Experimental Farm, Harrow, Ontario, Canada, from the backcross Mandarin x (Mandarin x A.K.); released in 1953; matures at the same time as Grant and Mandarin (Ottawa). Gray pubescence, purple flowers, yellow seeds with a gray hilum.

Capital, developed by the Central Experimental Farm, Ottawa, Ontario, Canada, from the cross of strain No. 171 x A.K. (Harrow); released in 1944; matures 1 day later than Grant; has tendency to lodge. Brown pubescence, purple flowers, yellow seeds with a light brown hilum.

Chippewa, developed by the Illinois Agricultural Experiment Station in cooperation with the U. S. Regional Soybean Laboratory from the backcross Lincoln x (Lincoln x Richland); released in 1954; matures 2 days later than Capital; has high yield and high oil content with good resistance to lodging and good seed quality. Brown pubescence, purple flowers, yellow seeds with a black hilum.

Renville, developed by the Minnesota Agricultural Experiment Station in cooperation with the U. S. Regional Soybean Laboratory from the backcross Lincoln x (Lincoln x Richland); released in 1952; matures at the same time as Chippewa. Gray pubescence, white flowers, yellow seeds with a light brown hilum.

Harly, developed by the Dominion Experimental Farm, Harrow, Ontario, Canada, from the cross Mandarin x A. K. (Harrow); released in 1948; matures 1 day later than Renville; a tall variety with good lodging resistance and good seed quality, but with low oil content. Gray pubescence, purple flowers, yellow seeds with a yellow hilum.

Monroe, developed by the Ohio Agricultural Experiment Station in cooperation with the U. S. Regional

Soybean Laboratory from the cross Mukden x Mandarin; released in 1949; matures 2 days later than Harly. Gray pubescence, white flowers, yellow seeds with a yellow hilum.

Blackhawk, developed by the Iowa Agricultural Experiment Station in cooperation with the U. S. Regional Soybean Laboratory from the cross Mukden x Richland; released in 1951; matures 2 days later than Monroe. Gray pubescence, white flowers, yellow seeds with a light brown hilum.

Earlyana, developed by the Purdue Agricultural Experiment Station as a selection from a natural cross in the Dunfield variety; released in 1943; matures 2 days later than Blackhawk; has a tendency to lodge excessively. Brown pubescence, purple flowers, yellow seeds with a yellow hilum.

Lindarin, developed by the Purdue Agricultural Experiment Station in cooperation with the U. S. Regional Soybean Laboratory, as a selection from the cross Mandarin (Ottawa) x Lincoln; released in 1958; matures about the same time as Earlyana. Gray pubescence, purple flowers, yellow seeds with a buff hilum.

Harosoy, developed by the Dominion Experimental Station, Harrow, Ontario, Canada, from the backcross Mandarin x (Mandarin x A.K.); released in 1951; matures 1 day later than Earlyana; characterized by consistently high yield in its area of adaptation. Gray pubescence, purple flowers, yellow seeds with a yellow hilum.

Hawkeye, developed by the Iowa Agricultural Experiment Station in cooperation with the U. S. Regional Soybean Laboratory from the cross Mukden x Richland; released in 1948; matures 3 days later than Harosoy; characterized by good yield, exceptionally high lodging resistance, good seed quality, and high oil content. Gray pubescence, purple flowers, yellow seeds with a black hilum with brown outer ring.

Harman, developed by the Dominion Experimental Farm, Harrow, Ontario, Canada, as a selection from the variety Manchu; released in 1944; matures about the same time as Hawkeye. Brown pubescence,

purple flowers, yellow seeds with a black hilum.

Adams, developed by the Iowa Agricultural Experiment Station in cooperation with the U. S. Regional Soybean Laboratory from the cross Illini x Dunfield; released in 1949; matures 3 days later than Hawkeye; very high oil content and good yield. Gray pubescence, white flowers, yellow seeds with a light brown hilum.

Ford, developed by the Iowa Agricultural Experiment Station in cooperation with the U. S. Regional Soybean Laboratory, from the back-cross Lincoln x (Lincoln x Richland); released in 1959; matures 2 days later than Adams. Brown pubescence, white flowers, yellow seeds with a black hilum.

Shelby, developed by the Illinois Agricultural Experiment Station in cooperation with the U. S. Regional Soybean Laboratory, from the back-cross Lincoln x (Lincoln x Richland); released in 1958; matures a day later than Ford. Brown pubescence, purple flowers, yellow seeds with black hilum.

Lincoln, developed by the Illinois Agricultural Experiment Station in cooperation with the U. S. Regional Soybean Laboratory from the cross Mandarin x Manchou; released in 1944; matures about the same time as Shelby. Brown pubescence, white flowers, yellow seeds with a black hilum.

Clark, developed by the Illinois Agricultural Experiment Station in cooperation with the U. S. Regional Soybean Laboratory from the back-cross Lincoln x (Lincoln x Richland); released in 1953; matures 5 days later than Lincoln; characterized by exceptionally high yield in its area of adaptation, with good resistance to lodging and good oil content. Brown pubescence, purple flowers, yellow seeds with black hilum.

Wabash, developed by the Purdue Agricultural Experiment Station in cooperation with the U. S. Regional Soybean Laboratory from the cross Dunfield x Mansoy; released in 1949; matures a day later than Clark. Gray pubescence, white flowers, yellow seeds with a light brown hilum.

Chief has averaged approximately a week later in maturity than Lincoln, grows tall and is characterized by relatively poor resistance to lodging, Gray pubescence, purple flowers, and normally two-to-three seeded pods. Chief beans are straw yellow and have a slate-colored hilum with a brown outer ring.

Perry, developed by the Purdue Agricultural Experiment Station in

cooperation with the U. S. Regional Soybean Laboratory from the cross Patoka x L37-1355; released in 1952; matures 5 days later than Wabash. Gray pubescence, purple flowers, yellow seeds with a black hilum with brown outer ring.

Scott, developed by the Missouri Agricultural Experiment Station in

SOUTHERN VARIETIES

(listed in order of maturity)

Hill is a new early variety averaging 6-8 days later than Perry, 2 days earlier than Dorman, and 14-18 days earlier than Hood. Seed supplies will be limited for 1960 plantings. Hill has medium plant height and heavy foliage. In general appearance Hill resembles Lee, but is 21-28 days earlier. It is similar to Lee in shatter resistance and in resistance to the major foliar diseases. In addition to this, Hill has also demonstrated a high degree of resistance to the common root knot nematode. Hill is superior to Dorman in seed production, lodging resistance, and in resistance to the major leaf diseases. It has white flowers, tawny pubescence, a light pod wall, and the seed is yellow with a light brown hilum.

Dorman averages 2 days later in maturity than Hill. It is expected that Dorman will be replaced by Hill when seed stocks are adequate. Dorman has white flowers, gray pubescence, a light pod wall, and the seed is yellow with a buff hilum.

Dortchsoy 67 averages 5 days later in maturity than Dorman and has a similar growth type. It does not hold its seed as well as Dorman. Dortchsoy 67 has white flowers, gray pubescence, a dark gray pod, and yellow seed with buff hilum.

Hood is a yellow seeded variety similar in growth characteristics to Ogden. It averages 14-18 days later than Hill, 2 days earlier than Ogden, and 9 days earlier than Lee. It is superior to Ogden in seed holding, but does not hold its seed as well as Lee. Hood is resistant to the diseases bacterial pustule, wildfire, frog-eye, and target spot. It has purple flowers, gray pubescence, and the seed is yellow with a buff hilum.

Ogden was at one time the most widely grown variety in the South but has been replaced by newer varieties, superior in seed holding and in disease resistance. Seed of Ogden has green coats which are not desired in some foreign markets. Ogden has purple flowers, gray pubescence, and the seed has a brownish-black hilum.

Lee averages 9 days later in ma-

ture than Hood. Plants are of medium height with heavy foliage. Lee is resistant to the diseases bacterial pustule, wildfire, frog-eye, and purple seed stain. It has moderate resistance to the disease target spot. It is highly resistant to shattering. Lee has purple flowers, tawny pubescence, a light tan pod wall. Seed is yellow with black hilum.

Jackson is a medium tall variety which averages 10 days later than Lee and 12 to 15 inches taller. It stands very well considering its height. Jackson is resistant to the diseases of frog-eye and target spot and has moderate resistance to some strains of root knot nematodes. Under most conditions, Jackson will hold its seed satisfactorily, but when it matures under drought stress it has shown some tendency to shatter. Jackson has white flowers, gray pubescence, a dark gray pod wall, and yellow seed with a buff hilum.

Bienville averages 2-4 days later than Jackson and grows slightly taller. Under conditions favorable for heavy growth, it does not stand as well as Jackson. Bienville is moderately resistant to target spot. It has purple flowers, tawny pubescence, and yellow seed with a dark brown hilum.

J.E.W. 45 matures 4-6 days later than Bienville. It has purple flowers, tawny pubescence, and yellow seed with a brown hilum.

Yelnanda matures 3-5 days later than J.E.W. 45. It is a rank growing variety developed for late planting on the lighter soils of the Southeast. It has white flowers, dense gray pubescence, and yellow seed with a buff hilum.

Improved Pelican is a late maturing, rank growing variety developed primarily to produce a heavy tonnage of green material for turning under in sugarcane fields. Because of its rank growth, Improved Pelican is difficult to combine, especially if planted too early. When planted in late June or early July, Improved Pelican can be combined with greater ease and will produce good yields of high quality seed.

THE CROP, MARKETS AND OTHER ITEMS OF NOTE

New Record Fats and Oils Production

World production of fats and oils in 1960 is tentatively forecast at an alltime high of 34.2 million short tons, up 1% from last year's record, USDA's Foreign Agricultural Service reports.

The outturn of edible vegetable oils in 1960—processed mainly from oilseed crops harvested in 1959—is expected to be about 13 million tons, or at nearly the same level as the alltime high of 1959. The sharp increase in olive oil output, plus moderate increases in cottonseed and sesame seed oils, is expected to be offset by declines in sunflower seed, peanut, soybean and rapeseed oils. Mediterranean Basin olive oil production is expected to be almost one-third larger than a year earlier. A record output of cottonseed oil is expected this year, mainly the result of the sharp increase in the United States.

A Few More Acres in 1960?

The trend in soybean acreage would appear to be **slightly up in 1960**—depending of course on such factors as 1960 support level and market outlook at planting time—but **not sharply so anywhere**, according to local reports. Only a few observers look for any local shrink in acres.

A summary of our reports on the 1960 acreage by states: Ala. constant, little variation in rotations; Ark. same; Del. up 1%-2%; Ga. small increase; Ill. little change to 5%-8% increase; Ind. no increase to up 10%; Iowa increase to up 10%; Kan. up; Minn. slight to considerable increase; Mo. same to slightly larger; N. C. up 5%-10%; N. Dak. may decrease 5%; Ohio down to up 10%; Tenn. up; Va. about same.

T. A. Hieronmymus, University of Illinois farm economist, looks for 5% to 10% more soybean acres in 1960. He expects the nation's soybean producing area to expand this year, and some farmers to cut oat and corn acreage and grow more soybeans. But if the soybean industry is to continue its phenomenal growth, growers and processors must be prepared to sell their oil cheaply in world markets, he says. And they cannot expect high prices for meal when feed grain and livestock prices are low.

Quoting J. B. Edmondson, Danville, Ind.: "I believe there will be no increase in acreage due to: (1) good returns from corn both in yield and price; (2) farmers would rather grow corn; no radical shift in normal crop acreage in sight; (3) rise in price of oats makes them look more respectable; (5) wheat acreage won't shift, corn may come up some."

David Frymire, Ohio Valley Soybean Cooperative, Henderson, Ky.: "Farmers had good experience with beans in 1959. Corn as free crop under loan not as interesting as many thought when considered land use, net income per acre, etc. This plus apparent good price for beans at planting time we think will give us an increase in our area."

Germination Reports Variable

There is considerable variation in reports on germination tests run so far on 1959-crop soybean seed. They run **all the way from very good to poor**. Germination of soybean seed submitted for certification to the Illinois Crop Improvement Association is running average with only slightly more than 10% germinating below 80%, the Association reports.

J. E. Johnson, Champaign, Ill., calls germination better than normal due to the moisture at harvest which resulted in less damage.

There are good reports of seed germination from Arkansas, but poor reports from Ontario, Virginia and Alabama. Chester B. Biddle, Biddle Farms, Remington, Ind., says the supply of seed of good germination is questionable in northwestern Indiana.

Some beans now in storage will have to move before spring due to high moisture content in Iowa, Illinois and Ohio. Paul C. Hughes, Farmers Soybean Corp., Blytheville, Ark., says two loans were refused in his area

because of moisture. Some high moisture beans have been moving to market without the usual discount, according to published reports.

**Broiler
Business
Better**

"Broiler prices in our area have been quite good during the past 2 months," states B. S. Jaffray, Cargill, Inc., Norfolk, Va. "Leaders of the East Shore broiler industry have indicated cautious optimism for their business during the next 2 or 3 months. Although placements have been quite heavy during the last 5 or 6 weeks, there continues to be a good demand which should carry the supply at least for the next quarter. Broiler feed manufacturers on the Eastern Shore are also optimistic."

**Agreement
with
Israel**

U. S. Secretary of Agriculture Benson announced signing of a commodity agreement with Israel under the P. L. 480 program in January. The agreement with Israel provides for shipment of \$30.2 million worth of U. S. agricultural commodities including 33 million pounds of soybean and cottonseed oils.

Israel's imports of soybeans may have reached 6 million bushels during 1958, double a year earlier, according to foreign sources. Almost all were purchased from the United States.

Purchase authorizations issued under the P. L. 480 program in January provide for 20,000 metric tons of edible oil for Turkey, and 10,000 metric tons to Israel under above commodity agreement. International Cooperation Administration announced authorization to France covering purchase of \$3 million worth of U. S. soybeans.

Total soybean shipments northward through the Suez Canal in 1958-59 totaled 30.2 million bushels against only 17.3 million bushels in 1957-58, FAS reports. Shipments of soybeans from Communist China through the Canal were 75% larger last year, and for the first time in recent years exceeded the volume of copra moving northward through the Canal.

**Livestock
Show in
Italy**

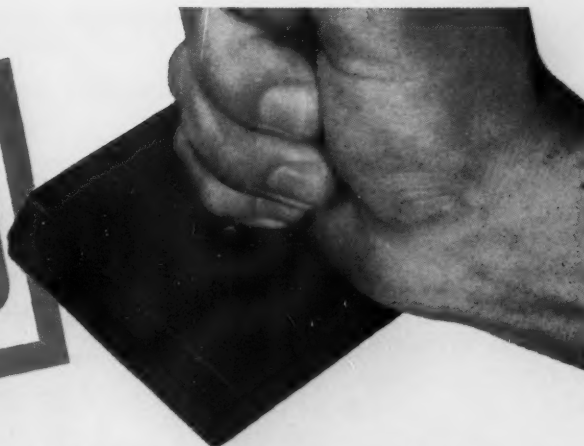
M. D. Guild, manager, and Harry Truax, feed department manager of the Indiana Grain Cooperative, recently returned from a Soybean Council of America assignment at the Foggia Livestock Show in Italy. Both men were extremely impressed by the Council's market development activities to date, but Guild pointed out: "We must take a new look at our position and activity in the international economy. We have learned how to produce, but have not learned how to market or distribute. We owe more to society than simply to produce and then say 'Come and get it.' We must find a way to get our production to where it is needed both at home and abroad. The undeveloped potential demand from abroad is tremendous and barely tapped."

Howard L. Roach, Soybean Council president, and Volorus H. Hougen, chief of the foreign marketing branch, fats and oils division, Foreign Agricultural Service are now in Europe on their way to Asia to implement the global agreement recently signed between FAS and the Council and establish regional and country operations. (See details on the agreement on page 24.)

Honeymead Products Co., Mankato, Minn., plans a new facility for producing shortening and margarine oil from soybean oil, particularly for the export market, according to Dwayne O. Andreas, chairman of the board. Engineering Management, Inc., Park Ridge, Ill., has been chosen as engineers and consultants to design and supervise the installation.

W. J. Amoss, who recently resigned as president of the Compania Cubana de Electricidad, has been named director of the Port of New Orleans, T. J. Smith, president of the Dock Board, announced. He succeeded Robert W. French, who left Feb. 1 to become president of Tax Foundation, Inc., New York, N. Y. Mr. Amoss was the Port's first director, taking over in 1955 when the post was created. He resigned the position in 1956 to become associated with American & Foreign Power Co.

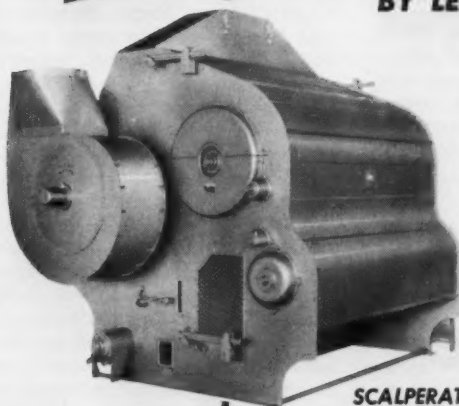
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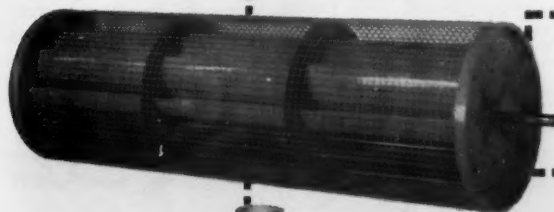
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SCALPERATOR

The Carter Scalperator does a good job of rough scalping and aspirating beans going directly to storage. It removes both coarse and light foreign materials. It also is a valuable machine to use on beans or grains when turned for cooling. Note that the Scalperator can be used on other grains without change of equipment. In capacity this is a "fast" machine. The Scalperator uses only rotary motion, thus does not vibrate.



The Basic Unit—Carter "Squirrel-Cage" Scalping Reel. Baffle plate construction retards flow of beans through the reel, insuring thorough rough scalping. The reel is self cleaning.

SECOND SCREENING AND ASPIRATION



MILLERATOR

The Carter Millerator, used before processing the beans, does a refined job of screening and aspirating. Its upper screen removes all material that is *larger in diameter* than the beans, and much of the material that is *longer*.

Its lower screen removes small seeds and sand. Controlled aspiration effectively removes light foreign materials. The Scalperator and Millerator are all-metal, require low power. Write for complete information . . . today.



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EFFICIENT SCALPING AND ASPIRATION



LEE soybean plant shown by H. V. Latham, Belhaven, N. C., implement dealer, on the farm of his son-in-law, L. M. Dilday. The Lee is North Carolina's most popular variety because of its ability to stand up to a long spell of wet weather after maturity. The Lathams have been in the seed business for many years. Mr. Latham's father was president of the American Soybean Association in 1927.

North Carolina Was the Pioneer State

Soybeans on the East Coast

By KENT PELLETT

Managing Editor, the Soybean Digest
Photos by the writer.

PART III

GEORGE E. SPAIN, North Carolina State College agronomy extension specialist at Raleigh, says that harvesting is the one big problem with soybeans in North Carolina.

Says J. T. Wright, Ralston Purina Co. manager at Raleigh: "Our humidity is unusually high and rains frequent, an unattractive pattern for harvester and handler."

For this reason, varieties are needed that will stand up and not shatter or deteriorate in seed quality during wet weather. The Lee variety seems to fill the bill very well and it is adapted over most of the area. Lee is well liked and I heard much favorable comment about its ability to take it in the field under adverse conditions. Norman Groh at Clay

Bank, Va., said Lee will stand in the field much of the winter without shattering. It also has disease resistant qualities and high oil content, and is a high yielder.

Lee now occupies about 80% of the North Carolina soybean acreage.

But an earlier maturing variety is also needed that will not lose quality and will stand up over long periods of wet weather, that can be planted after other crops. Lee is too late for use in double cropping over most of the area, except from southern North Carolina on south.

The Clark variety has been a disappointment in Delaware, Maryland and Virginia where it is adapted. Clark has a tendency to mold in the pod and there is more trouble with mottling than with some other varieties.

Houston Camper, agronomist at Warsaw, Va., says Clark matures at the wrong time there, during hot humid weather as a rule. The seed quality tends to deteriorate before harvest due to changes taking place in atmospheric conditions.

The Warsaw Research Station is looking for a variety in the same maturity group as Clark but maturing as late as possible in that group. Dr. Camper says that a selection from a Lincoln x Ogden cross not yet released has considerable promise. It is a fine looking bean that was originated at the Purdue Station.

According to agronomist Spain at Raleigh, there are many good reports on the new Hill variety in North Carolina. Earlier than Lee, it will lengthen the combining period. Hill looks a little like Lee and some growers call it the "Lee Junior."

L. M. Dilday at Belhaven, N. C., is growing some of the Hill and is enthusiastic about it. He says he can plant Hill in July and even August following small grain and get a crop.

New varieties are particularly needed in southern South Carolina. Clemson Non-Shatter is the leading variety there but it is low in oil content. R. A. Denman at Estill said his firm is trying to introduce other varieties into the area. Some of the Bienville, a Louisiana variety, is being grown.

Dr. Camper says the later maturing varieties such as Lee and Hood average a little higher in yield at all planting dates, even as late as July, over a period of years than do the

DAMAGE by Mexican bean beetle in a field of soybeans near Belcross, N. C. Insects are an ever present threat on the East Coast but farmers take prompt control measures when outbreaks occur.



earlier varieties in tests at the Virginia Station.

Ogden is still a popular variety in Delmarva, also in North Carolina, though it is gradually losing ground to Lee. It matures very late in Delaware. Dr. Camper says 40% of the soybean acreage in Virginia is still planted to the Ogden. Apparently Ogden does not shatter as badly on the East Coast as it does in its home in the Midsouth.

Hiram W. Short, Cedar Grove Farm, Felton, Del., likes the later varieties such as Lee and Dortchsoy better than the shorter-season varieties due to their higher yields. Short has been growing beans in Delaware for 35 to 40 years. But Reade Nicolls, who grows 1,000 acres of Dormans and Lees near Onley, Va., likes the Dorman especially. It is ready to harvest in late September or early October. Both Nicolls and Short are longtime American Soybean Association members.

Hammond at Bridgeville, Del., says farmers in the area grew Black Wilson until quite recently. Wilson is high in protein, low in oil content. The beans were processed but there was some complaint about the black color in the resulting meal.

A. W. Jarvis, Jr., Moyock, N. C., divides his 200 acres of beans between Lee and Ogden, but most are Ogden. He says Ogden stands up better and is a little easier to combine, but Lee does not shell out so badly if the weather is wet.

Lee, Dorman and Jackson have done much to stabilize soybean production in North Carolina, according to the N. C. Board of Farm Organizations and Agricultural Agencies.

The five varieties recommended by the Clemson College Agricultural Experiment Station at Blackville, S. C., are Lee, Jackson, C.N.S. 4, J.E.W. 45 and Yelnanda.

Bienville has been standing up very well in the South Carolina Experiment Station tests, according to W. B. Rogers, Clemson Station superintendent at Blackville. But it has not outyielded Jackson, which has just as high oil content as the Bienville, Dr. Rogers says.

South Carolina, Georgia

Soybeans have come into South Carolina mostly since 1950, and acreage has expanded most rapidly in the area between Lake Marion-Lake Moultrie and the Savannah River. The coastal lands are largely flat and sandy loam about 10 inches down to clay subsoil. Harper & Bowers at Estill have done much to promote soybean production in the area.

H. M. Henry, manager of the Buckeye Cellulose Corp. at Augusta, Ga., says there is a good bit of soybean production in the lower Savannah River valley between Estill and the Coast on both the Carolina and the Georgia sides but that soybean production is expanding much more rapidly in South Carolina than in Georgia.



AGRONOMIST Houston Camper in a plot of a newly developed selection of soybeans at Warsaw, Va., Research Station. Mr. Camper thinks this selection, developed through a cooperative program with the USDA, has good promise to replace Clark, which he says matures at the wrong time in Virginia, when the weather is hot and humid. "In the pod is the worst place to store the soybean" for a long period of time.

Henry thinks a number of South Carolina counties have already reached their potential in soybean production as the land in some areas is sandy and not good for bean production. Other counties will see some more expansion.

Some pulpwood firms are buying land along the South Carolina coast and planting it to timber, Henry says. This will shrink crop land in some areas, and is offsetting to some extent the shift from timber to crops in North Carolina.

But Dr. Rogers at Blackville notes that a county agent in his area has stated that apparently the practice of putting crop lands into pines in his county is about over.

Soybean production in Georgia is still quite small. There seems to be no confident expectation that it will expand in any large way in the state in the near future. Nor is it certain that Georgia soils over any large area are adapted to soybean production.



EXTENSION agronomist George E. Spain (right) and technical aids Clifford Elledge and Malpheaus Young in a plot of the Lee variety at the State Experiment Station at Raleigh, N. C. The station is carrying on an active program of soybean work.

Experiment Station Work

The Delaware State Experiment Station is conducting research work

on soybeans at its stations at Newark and Georgetown. Breeding work is being carried on at both stations, and the weed control plots are at Newark. H. W. Indyk, who has been in charge of the Delaware soybean work, is now at Rutgers University where he is in charge of forage investigations. The soybean work at Newark is in charge of Frank B. Springer, Jr., at present.

Camper at Warsaw, Va., is doing extensive breeding work and is conducting tests on time of planting fertilizers and chemical weed control. He said there is a very good turnout at farmers' field days. Apparently there is keen interest in the work at the Station.

Breeding work, fundamental investigations on heredity, and some cultural practice work such as mulch planting are in charge of C. A. Brim, cooperating USDA plant breeder. Research on fertility, weed control and pathology is conducted by other scientists of the Agricultural Research Station.

The soybean cyst nematode investigations are being conducted at Castle Hayne, N. C., with work on developing nematode-resistant varieties being done at Raleigh.

Spain is carrying on an active extension program on soybeans over the state. He says the recommended rotation is corn-soybeans-small grain. The Station does not encourage rotations with peanuts or tobacco. The latter is subject to one of the same nematodes as soybeans.

The Station suggests that the main effort on chemical weed control be made on corn, that cultural practices only be used on soybeans. It does recommend direct fertilization of soybeans, according to Spain.

North Carolina Pioneered

Soybean growing is not exactly new along the East Coast. North Carolina was one of the pioneer soybean growing areas, and in the early 20's grew more soybeans than all other states combined. The first processing of soybeans grown in America was done by the Elizabeth City, N. C., Oil & Fertilizer Co. in 1915.

The American Soybean Association held its annual convention at Elizabeth City, Belhaven and Washington, N. C., in 1927. F. P. Latham, a pioneer seedsman at Belhaven, was president. His firm has been in the seed business ever since and is now in charge of his son, H. V. Latham.

Ed Mann, Blount-Midyette Co., Washington, N. C., is another pioneer seedsman. He says his firm was built on the soybean crop in North Caro-

lina. The company was in existence at the time of the ASA convention in North Carolina and was selling soybean seed for hay over a large part of the United States. Mr. Mann was in the grain handling business for many years, but recently sold his elevator to Fred Webb, Inc., at Greenville, N. C.

Science Could Balance Diet for 21¢ a Day

A MAN could live on a diet costing 21¢ a day if he were willing to depend on science alone to balance it, and live partly on soybean meal, Time Magazine reports.

The problem was fed to an IBM electronic computer by Brown University research men, who told it that man must have minimum quantities of such nutrients as proteins, minerals and vitamins. The machine came up with the answer that lard, beef liver, orange juice and soybean meal would furnish everything needed.

The researchers had trouble concocting a palatable meal from these ingredients. A laboratory dog was reluctant to eat it.

"The only conclusion: A computer could live cheaper than a human because it has no taste buds," says Time.



KANSAS plant for producing Aeroglides grain driers.

Aeroglides Corp. Adds Kansas Plant

AEROGLIDE CORP., Raleigh, N. C., has announced plans to establish a plant to produce its world-famed grain driers in Emporia, Kans.

In making the announcement, James F. Kelly, president of the Aeroglides Corp., said establishment of the Emporia plant will enable the company to take better care of an expanding national market.

Culminating 3 years of exploration into the grain drier market, the company management selected Emporia as the site of its new plant as one step in Aeroglides' long range expansion.

Based on several years' experience working in Kansas, Aeroglides personnel are thoroughly familiar with conditions existing there. Similar conditions prevail in the heavy wheat production areas of Nebraska, Oklahoma, and other adjoining states.

The company maintains its execu-

tive, engineering, manufacturing, sales, and planning staffs and its headquarters in Raleigh, N. C. In addition, Aeroglides employs sales and export personnel in Chicago, New York, and other points.

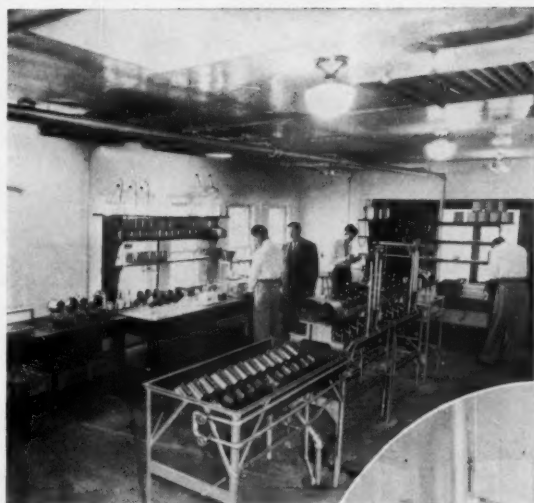
President Kelly, long an observer of trends in the grain and associated industries, predicted a boom in the grain drier market in the Midwest and Great Plains during the next few years.

The building, which has been leased by Aeroglides from the Santa Fe Railway, is "excellent for our use in getting our operations underway in Kansas," President Kelly said.

He said the building will accommodate the biggest railroad cars, which will bring steel parts into the plant and move out the completed Aeroglides grain driers. It provides ample overhead height for even the tallest of the Aeroglides driers.

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The Oil Refining Department at the Memphis, Tenn., laboratory, with a capacity of 150 refinings daily, and all soybean products and feeds

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Official Chemists for the Chicago Board of Trade

Official Chemists for National Soybean Processors Association

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MEMPHIS, TENN.



A. K. SMITH of the Northern Division and Tokuji Watanabe, visiting Japanese scientist, examine tofu cake.



TOKUJI WATANABE wet grinds soybeans to be used in making tofu.

USDA research may put more U.S. Soybeans in Japanese Foods

U. S. DEPARTMENT of Agriculture research, which shows that our soybeans can be used in Japanese whole-bean food processes, might open a larger part of the expanding Japanese market to U. S. beans. The research results include an improved process for making miso.

U. S. soybeans now have limited acceptability in Japanese food processes that start with whole beans, although the Japanese in 1959 imported an estimated 35 million bushels of our beans—almost 10 times the quantity imported in 1950. Most U. S. soybeans that go to Japan are processed into oil and meal, which are used as food, A. K. Smith of the Agricultural Research Service reported after he investigated in 1957 the use of U. S. soybeans in Japanese foods.

About half of the soybeans used in Japan are eaten as traditional foods, most of which are made in processes that begin with whole beans. Miso, alone, accounts for 20% of the soybean consumption. Such foods are important sources of protein and add flavor to a diet that contains little meat. A government plan to increase protein available in Japan over the next 10 years includes a 40% increase in soybean consumption.

Recognizing that the Japanese

whole-bean processors use limited amounts of our soybeans, Dr. Smith recommended studies of U. S. beans in Japanese food processes. His survey in Japan and the Agricultural Research Service studies that followed were conducted under a market development program in cooperation with the Foreign Agricultural Service and the American Soybean Association. Under the leadership of Dr. Smith, chemist, and C. W. Hessel-tine, microbiologist, Japanese and American scientists conducted an investigation at the Northern Utilization Research and Development Division, Peoria, Ill. Their work began with miso and tofu, two of five traditional foods on which Dr. Smith had reported.

The new miso process, in which the soybeans are cracked into grits and the seedcoats removed, requires about half the fermentation time required by Japanese methods—which start with whole soybeans. The research was performed by Dr. Hessel-tine and Kazuo Shibasaki, on leave from Tohoku University, Sendai, Japan.

Dr. Smith, A. M. Nash, Peoria chemist, and Tokuji Watanabe, on leave from the Japanese Ministry of Agriculture and Forestry, studied U. S. soybean varieties in tofu processing. They made high quality tofu

from some U. S. varieties and found others that might be acceptable to Japanese processors.

Japanese processors say our beans absorb water, cook, and ferment more unevenly than their own. They also object to foreign matter, split and broken beans, and other crop material in our beans and to the color and "beany" flavor of products made from them.

The objections stem from differences in varieties and in handling soybeans in the two countries. U. S. soybeans, introduced from the Orient, have for 25 years been bred for yield, oil content, pest resistance, and similar characteristics but not for food processes that begin with whole beans—about half the total use in Japan. American farmers harvest beans mechanically in contrast to the one-hand scythe operations typical on Japan's average 2.5-acre farm. Machines crack more soybeans and are not as precise in foreign matter removal as the Japanese methods.

Removing the seedcoat eliminates all but one objection, foreign matter content, to U. S. beans in miso processing. Miso produced in the Peoria laboratory was high quality.

Removal of the seedcoat also reduces soaking and cooking times of the beans, increases protein content

and uniformity of the miso, and removes any black hila or "eyes," which cause dark spots in the miso.

To make miso by the traditional method, soaked, whole soybeans are cooked 1 to 2 hours, then mixed with fermented rice, salt, and water. A yeast starter is added to carry out the fermentation, which requires 45 days to a year.

Miso, a paste, may be light, medium, or deep brown and has a flavor similar to that of soy sauce. It is used primarily in soup. Miso soup is eaten twice a day by almost all Japanese and adds protein as well as flavor to a diet that contains very little meat. Miso ranks second to rice as a common food in Japan. It accounts for more than 20% of all the soybeans used there.

Tofu, known also as soybean curd, is made by soaking, wet grinding, cooking, and filtering soybeans to produce an emulsion and by adding calcium sulfate to the emulsion to coagulate the protein and oil. The coagulated curd is molded in wooden boxes to make a soft, white cake that is about 88% water, 6% protein, and 3.5% fat.

Tofu, sliced or cubed, is used in soup and to make other foods such as aburage, which is tofu fried in deep fat. "Frozen" tofu is made by freezing the curd for about 3 weeks, drying it, and treating it with ammonia.

Dr. Shibasaki and Mr. Watanabe are engaged in soybean food research, which is included in a program by their government, and were selected, with the help of the Japanese American Soybean Institute, to work in the market development program.

Heavy Soybean Trading In '59 on Chicago Board

TRADING IN soybeans—the one major grain crop still being produced for use instead of government storage—increased in the late months of 1959 to offset trading losses in other major grains, thus preventing a drop in the volume of trade on the Board of Trade of the City of Chicago.

The volume and recent price of soybeans offers proof of "what should not have to be proved at all," according to Robert C. Liebenow, president of the Exchange. "With the supply and demand for soybeans more in balance than in any other major crop, the farmer has received a real boost in price. Instead of accepting the government loan price of \$1.85 a bushel for their beans,

farmers sold them in the free market for a price ranging from about \$2.07 to \$2.24, Chicago, in the current crop year.

"This is one case," Liebenow adds, "when the so-called 'support' price did not, in effect, put a ceiling on the price for a given commodity—which certainly shows that the free market can operate effectively when the government stops interfering with elementary laws of economics."

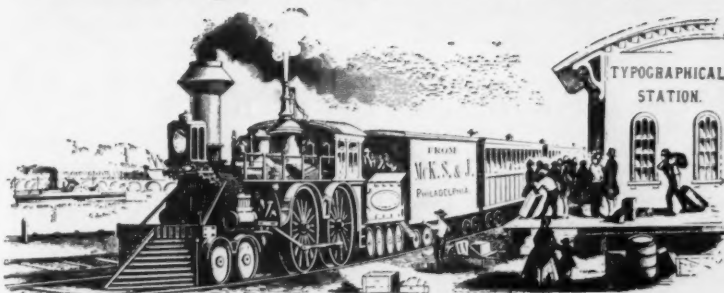
Soybean trading showed an increase of 42.7% in 1959 over 1958, while one of its major components, soybean meal, registered a whopping 87% increase.

New Safflower for Dry Land Released by USDA

A NEW safflower variety, US-10, developed by Dr. Charles A. Thomas of the U. S. Department of Agriculture and tested cooperatively by the California, Arizona, and Utah agricultural experiment stations, has been approved for certification and released to seed growers and farmers by the California Station.

US-10 has been tested extensively in California, Utah and Arizona and is recommended for these states. Preliminary testing indicates that it can also be grown in Nebraska, Idaho, Montana and Wyoming.

GRAIN DRIERS BECOME OBSOLETE, TOO!



Transmission of less than 5 h.p. to the draw bar for each 100 h.p. of energy developed from the fuel makes this steam engine obsolete and uneconomical. Scientific and engineering advances in today's engines provide lower cost and more efficient transportation.

Modern Aeroglide Driers Lower Operating Costs and Give Better Grain Quality

Modern scientific and engineering advances made in Aeroglide Driers do make older driers obsolete. Grain drying is an exacting process. It demands a scientific approach to such factors as ambient temperature, vaporization, optimum air speeds, heat transfer rate and material agitation.

Since excess moisture in grain is internal moisture, it is mandatory that an efficient grain drier maintain the greatest practical vapor pressure differential between the product and the surrounding air. Limited by critical temperature, Aeroglide develops a positive vapor pressure by uniformly heated air circulation, plus thorough agitation of the product. Through accurate and sensitive temperature and "rate of flow" controls, care is taken to avoid glazing of the grains outer surface.

Full comprehension of these factors have made it possible for Aeroglide engineers to build a grain drier that gives better grain quality and low operating costs.

120

Find out for yourself why an Aeroglide Grain Drier will be more profitable for you to own. We will be glad to send you an illustrated booklet of complete information backed up with facts and figures, without obligation. Write, wire or phone, now.



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Cargill in New \$20 Million Addition

PLANS FOR a \$20-million "package" of new downtown construction including a 16-floor "Cargill Building" of offices, a large motel, above-street plaza and restaurant, new Northwestern National Bank services, rooftop garden and swimming pool, shopping arcade and 1,000-car parking ramp, have been announced in Minneapolis, Minn. Work will begin in the fall of 1960, with occupancy expected in 1962.

The project was described by spokesmen for Baker Properties, Inc., its original planner, and Northwestern Bank and Cargill, Inc., both major participants and future tenants.

The group of structures, to surround a 500,000 square foot office building planned at 7th St. and Marquette Ave., will connect by an overhead plaza to the Northwestern Bank, Marquette Bank and Roanoke buildings on the other three corners of that intersection. Arcades with retail shops will also link the Cargill Building with a new motel and parking units for 1,000 cars.

The Cargill Building will rise on land now under lease to the Northwestern National Bank.

It will cost about \$13 million, with approximately 30,000 square feet per floor. Edward Baker, designer of the building, said the alternate location of windows on alternate floors, together with gleaming anodized aluminum sections from floor to floor, will provide a "fabric texture" to the facade. It will be completely air

conditioned and equipped with the latest automatic high-speed elevators, he added.

Principal tenant will be Cargill. Others in addition to the Northwestern Bank will be the Campbell-Mithun advertising agency and Minnesota & Ontario Paper Co.

On completion, Cargill expects to move approximately 650 employees into the new building. Some 400 others are employed by Cargill in this area. The firm, founded in 1865 and now one of the nation's largest handlers and processors of farm products, with sales exceeding a billion dollars annually, employs more than 5,000 persons in approximately 200 plants and offices nationally.

Cottonseed Processing Clinic Set for Feb. 15-16

THE NINTH Annual Cottonseed Processing Clinic, sponsored by the Mississippi Valley Oilseed Processors' Association, Inc., and the U. S. Department of Agriculture's Southern Utilization Research and Development Division, will be held Feb. 15-16, 1960, at the Southern Regional Research Laboratory, New Orleans, La. Announcement of the meeting date was made by Zach McClendon, Drew Cottonseed Oil Mill, Monticello, Ark., president of MVOPA, and C. H. Fisher, director of the Southern Division.

L. H. Hodges, Barrow-Agee Laboratories, Inc., Memphis, Tenn., and R. M. Persell, assistant director of the Southern Division, are program chairmen for the meeting.

Baker Is New Illinois ASA Director



Hubert W. Baker

1959-60 United Fund, and a member of the United Fund board of directors. A Farm Bureau director for his township, he is also chairman of the Macon County Farm Bureau public affairs and legislative committee. As chairman of the county Farm Bureau policy development committee, he is active in legislative work of the Farm Bureau and Illinois Agricultural Association.

Following his election to the ASA board of directors, he was appointed to the resolutions and nominating committees.

He is a member of the Bethany Masonic Lodge, Springfield Consistory, and Ansar Shrine of Springfield, Ill. He is a charter member of the Mt. Zion Lions Club and has served on the Mt. Zion school board.

Mr. Baker is an elder of the Dalton City Presbyterian Church, and was the 1959 Commissioner to the General Assembly of the United Presbyterian Church in the U. S. A. He is vice president of the board of directors of the Synod of Illinois Presbyterian Kemmerer Orphans Home at Assumption, Ill. He also serves as a member of the committee on church relations for Millikin University, Decatur.

He is married and has two children, a daughter Jeanne, 15, and a son, Stuart, 12.

The Tennessee Seedsmen will hold their annual meeting at the Andrew Jackson Hotel, Nashville, Feb. 14-15. C. Hays Hollar, secretary, Newbern, Tenn., has announced.

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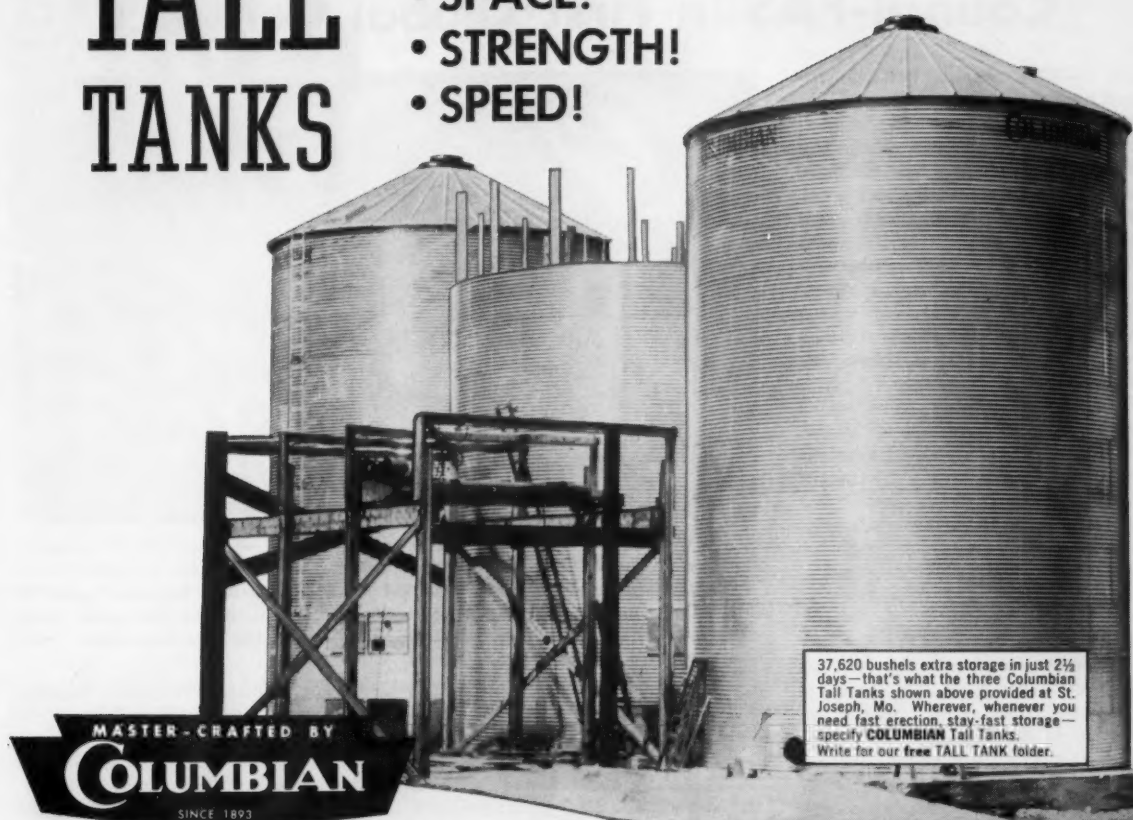
HUBERT W. BAKER, who was elected to the board of directors of the American Soybean Association at the last annual meeting, is the owner-operator of a 560-acre grain farm near Decatur, Ill. His home address is Dalton City. He is actively interested in grain marketing and agricultural research.

He attended the Engineering College of the University of Illinois, and completed postgraduate work in engineering, science and management at Illinois Institute of Technology. During World War II, he served as assistant electronics officer at South Boston Navy Yard, and at the U. S. Naval Research Laboratory, Washington, D. C.

Mr. Baker is active in civic and agricultural affairs. He is chairman of the Macon County division of the

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- STRENGTH!
- SPEED!

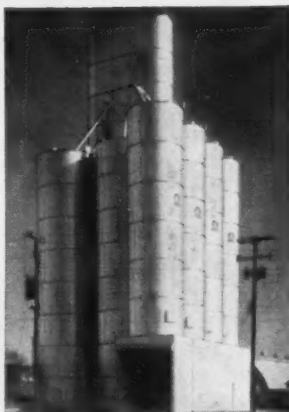


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in a wide range of sizes up to 20,000 Bushels maximum capacity!

Buy Columbian TALL TANKS and save on ground space required for the higher capacity grain storage you need—and save time needed to erect! You get more capacity and strength at lower cost per bushel. Invest in Columbian TALL TANKS and you get all the farm-tested features of Columbian master-crafted grain bins. They're reinforced from top to bottom by the rugged Z-bar stiffeners originally developed for Columbian Bolted Steel Grain Tanks . . . the all-time standard of the industry.



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Handle more grain faster—with lower labor cost—by putting Columbian engineering and Master-Crafting at your command to expand or build elevators that are strong, fire-safe, tight—and economical...elevators with blending and classifying equipment! Columbian Bolted Steel Elevator Tanks are the last word in modern, adaptable grain storage. To inform yourself fully on how to make elevator business more profitable, write for the new, free Columbian Elevator Book—today!

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Council-FAS in First Global Contract

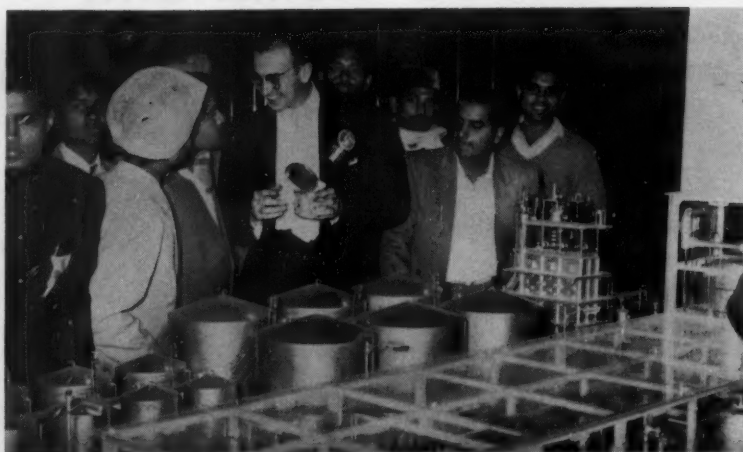
THE FIRST export market development project ever written on a global basis for any commodity organization was approved and signed by USDA's Foreign Agricultural Service and the Soybean Council of America, Inc., in Washington the last of January.

Considered a major breakthrough for the soybean industry, the agreement designates over 40 countries for market development work utilizing foreign currencies acquired by USDA.

The agreement gives the Council the mechanism with which to use foreign currency, obtained through the sale of surplus U. S. agricultural commodities, to develop markets for U. S. soybeans and soybean products in all parts of the globe. Regional offices will be established in South America, India and Italy and other possible locations.

Signing the contract were Howard L. Roach, Soybean Council president, and Max Myers, FAS administrator.

Basically, the agreement calls for 16 areas of exploratory work looking toward expansion of markets for soybeans and soybean products in the countries where the project will operate. Included will be studies and surveys to determine the factors restricting U. S. exports. Regulations of the various countries which affect the sale of oilseed products will be published. Foreign buyers will be assisted in obtaining soybeans and soybean products of the quality desired and in solving technical and sales problems in utilizing U. S. beans. Usage will be promoted at the consumer level through such efforts and demonstrations and sem-



NEW DELHI World Agricultural Fair visitors learn how shortening is produced in an American plant from Javier de Salas, of Madrid, Spain. De Salas, who is assistant director for Europe and the Near East for the Soybean Council of America, Inc., was in charge of the Council's booth at the fair at the time. Model of U. S. vegetable oil refinery and processing plant is in foreground.

inars. Exchange of ideas, knowledge and technical information and experience between U. S. and foreign industries will be encouraged. There will be close coordination between the Council and FAS on all projects.

Countries in which market development work will be permitted using foreign currencies under the new global contract include Austria, Belgium, Brazil, British Guiana, Burma, Chile, Colombia, Cuba, Denmark, Ecuador, Egypt, Finland, France, Greece, Hong Kong, India, Iran, Ireland, Israel, Italy, Lebanon, Malaya, Mexico, Morocco, Netherlands, Norway, Pakistan, Peru, Poland, Portugal, Saudi Arabia, Singapore, Spain, Surinam, Sweden, Thailand,

Turkey, United Kingdom, Venezuela, West Germany, West Indies Federation and Yugoslavia.

The signing of the global contract is the culmination of 5 years of pioneering work in developing export markets by the American Soybean Association and the Soybean Council of America, Inc. During the past year the Council has been making intensive surveys of the market potentials for U. S. soybeans and products in many parts of the world, looking toward market development programs in many of the countries.

The first export market program on oilseeds ever undertaken jointly by the U. S. Department of Agriculture and a commodity group was



C. R. WEBER, in charge of New Delhi exhibit.



R. G. SPEARS, in charge of Council's exhibit at Bombay.



DON E. EDISON will represent U. S. soybean industry at Verona, Italy, fair.



MRS. INDRA GANDHI, daughter of India's Prime Minister Nehru, is shown the U. S. soybean exhibit by the Soybean Council's Javier de Salas.

sponsored by FAS and the American Soybean Association in Japan, beginning early in 1956. The program is still active with the Japanese American Soybean Institute as the operating agency. Japan is the leading foreign market for U. S. soybeans, and imported over 36 million bushels in the last marketing year.

The Soybean Council of America was organized in 1956 to further expand the markets for soybeans and soybean products. The first market development projects under the sponsorship of the Council and FAS followed the next year, in Spain and Italy.

The Council now has active market development projects in Israel, Germany, Egypt, Chile, Ecuador and Colombia, in addition to Spain and Italy.

THE COVER PICTURE

THE MEN IN THE picture were present at the signing in Washington, D. C., of the historic global contract that assures market development projects for U. S. soybeans and soybean products in 42 countries. Standing left to right, John Sawyer, London, Ohio, Council director and past president of the American Soybean Association; Volorus H. Hougen, director foreign marketing branch, fats and oils division, Foreign Agricultural Service; Carle G. Simcox, Assumption, Ill., Council director and president of the American Soybean Association; Robert G. Houghtlin, Chicago, Council secretary; and Geo. M. Strayer, Hudson, Iowa, ex-

ecutive director of the Council. Seated, left to right, Max Myers, administrator FAS; Howard L. Roach, Plainfield, Iowa, Council president; and Walter W. Sikes, director fats and oils division, FAS.

Weber in Charge of Exhibit at New Delhi

C. R. WEBER, professor of agronomy, Iowa Agricultural Experiment Station, and U. S. Department of Agriculture collaborator, Ames, arrived in New Delhi, India, to take charge of the Soybean Council of America exhibit there about Jan. 12. The fair lasts through Feb. 14.

Dr. Weber replaced Javier de Salas, the Council's assistant director for Europe and the Near East, Madrid, Spain, who was on hand for the opening of the fair. Dr. Weber has been in charge of soybean improvement work at Iowa State University since 1942, except for the time he served in the U. S. Navy during World War II.

Soybeans are being featured in two different parts of the U. S. pavilion, where huge crowds are attracted—as many as 2,000 to 6,000 people per hour, according to reports.

The versatility of U. S. soybeans is being illustrated through a scale model processing unit which depicts the flow of oil from a crude state to the final products of shortening, salad oils, and margarine, including a hydrogenation unit for hardening margarine and shortening.

Spears Represents Industry at Bombay

ROBERT G. SPEARS, Lever Brothers Co. vice president, New York, left the United States Jan. 19, arriving in Bombay, India, on Jan. 24, where he is representing the U. S. soybean industry at the U. S. Small Industries Fair.

Mr. Spears is in charge of the soybean exhibit for the Soybean Council of America, Inc., at the fair, which lasts from Jan. 30 through Feb. 28. Soy protein and oil are being featured.

Mr. Spears was a pioneer in the use of soybean oil in the manufacture of margarine and is recognized as a leader in the margarine industry. He is a former president of the National Association of Margarine Manufacturers.

He joined Lever Brothers in 1950 as vice president and general manager of the Good Luck (margarine) division, and 3 years later became marketing vice president of the new and broadened foods division.

Grain Dealer Executive In Charge Verona Exhibit

DON E. EDISON, executive secretary of Farmers Grain Dealers Association of Iowa, Des Moines, will be in charge of the U. S. soybean exhibit at the 62nd Agricultural Fair which opens at Verona, Italy, Mar. 15.

Mr. Edison, who goes as the representative of the Soybean Council of America, is a well-known Iowa grain man, in the second largest soybean state in the Union. He is also vice president and secretary-treasurer of Farmers Elevator Mutual Insurance Co.

The fair is of considerable magnitude and attracts a large group of farm people as well as representatives of agricultural business throughout Italy, with visitors from Switzerland, Austria, West Germany and France.

The scale model processing unit of the Girdler Process Equipment Division, which has been on display at the New Delhi fair, will be featured in the Council's display at Verona.

Board of Trade Reelects Rowland

CLARENCE ROWLAND, JR., partner of Engel & Co., has been reelected chairman of the Chicago Board of Trade, according to Robert C. Liebenow, Exchange president.

James P. Reichmann, independent trader, and William G. Catron, Jr., Eckhart Milling Co., were reelected first and second vice chairmen.

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Electronic Temperature Indicating
Equipment for All Grains, Soybeans,
Nuts, Cottonseed etc. in Vertical or
Flat Storage.

ANCHOR BLDG. ST. PAUL, MINN.

Hold Food Exhibits at Yagi and Kizu

By SHIZUKA HAYASHI

Managing Director, Japanese American Soybean Institute, Nikkatsu International Bldg., No.1-Chome Yurakucho Chiyoda-Ku, Tokyo, Japan

ONE OF THE SERIES of 3-day exhibitions of soybean food products in the Japanese diet was held in Yagi Town, Kyoto Prefecture Dec. 4-6. The exhibitions are held under our contract with the Food Life Improvement Association and the life improvement section, Japanese Ministry of Agriculture.

The town has a population of about 12,000 and is located a little over an hour's travel by train north-west of Kyoto City.

With no knowledge of the geography of the district the writer took a steam engine from Kyoto. He was surprised to learn that this mountainous area is one of the famous spots in Kyoto Prefecture. Here is the world-renowned Hozu Rapids, which runs with its many curves from near Yagi Town to Kyoto. Sightseers from all over the world take an exciting trip in a small wooden boat which is skillfully maneuvered down the snaky rapids by an expert with a single oar.

Also, the writer was quite unprepared for the 15 tunnels that the train passed through along the river.

Minnesota manager reports on SHANZER grain drier

"I believe in staying with a good thing - that's why our second drier was another Shanzer! Season after season, the trouble-free, full-rated performance of these units, even on extremely wet grain, has certainly earned our respect."



- Says, W. H. Lenton, Manager Farmers Elevator Company, Inc., Stewartville, Minnesota.

Get more for your drier dollar, see your Shanzer representative, or write:

SHANZER MANUFACTURING COMPANY
SUtter 1-5200
85 Bluxome Street, San Francisco, California

The train stopped at Yagi station, and it took only about 10 minutes to walk to the high school where the exhibition was held.

The exhibition occupied several rooms, with one large room given over to the cooking demonstration. A crowd of about 250 women gathered to watch the cooking demonstration by extension workers. They used several recipes for soybean dishes.

In the two adjoining rooms were exhibited about 300 different kinds of soybean dishes prepared by housewives in the district for a contest previously held. The winning dish was a salad sandwich prepared by using tofu and miso. This was awarded the prefectural governor's prize. Many women stopped to examine the various dishes and take notes so they could prepare similar dishes at their homes.

Various panels were displayed with literature and charts setting forth the nutritional values of soybeans and soy products such as soybean oil, salad oil, frozen tofu and shoyu.

About 5,300 people attended this exhibition during the 3-day period.

Another 3-day exhibition was held at the same time in Kizu Town near the border line between Kyoto and Nara Prefectures. It is about 1 hour's drive from Kyoto City. This is a small town but it was chosen because of its convenient access to surrounding areas. Housewives from

about 18 towns and villages can gather there conveniently.

A series of arches with flags over the streets advertised the exhibition and cleverly led crowds to the primary school where it was held.

Two hundred and eighty-nine dishes of various soybean products were displayed. A special dish prepared with a sort of pickled natto won the prefectural governor's prize.

About 500 people squatted down on the floor to listen to the speeches.

The cooking demonstration was held in the open air on the playground of the school, the first the Institute had held outdoors. Two nutritionists from the health center demonstrated soybean dishes accompanied by the explanation of the food life extension worker broadcast through a microphone.

About 2,000 attended this exhibition during the 3 days.

The success of the 3-day exhibitions should be emphasized. The plans are made by the life improvement section under Mrs. Yamamoto, the only woman sectional chief in the Ministry of Agriculture to mobilize the network of home extension workers in all prefectures, whose duty is to cooperate with and guide the rural housewives, who regard them in the highest respect.

Mrs. Hayashida, home extension specialist in charge of the 3-day exhibition in Kyoto, explained that much time and effort are required to prepare such exhibits.



OPEN AIR cooking demonstration at Kizu, the first to be held by the Institute.

Lake Providence Forum Is Feb. 26

THE FOURTH annual Tri-State Soybean Production and Marketing Forum for the farmers, shippers and elevator men of Louisiana, Mississippi and Arkansas will be held at the American Legion Home in Lake Providence, La., Feb. 26, the committee has announced.

There will be morning and afternoon sessions, with an open industry meeting of trade, research and educational representatives Friday morning at 9:15 a. m.

Afternoon meeting, opening at 1:45 p. m., will be tuned for soybean producers and their problems. Some 500 farmers, shippers and elevator men are expected to attend.

Speakers and subjects will include:

David R. Farlow, American Soybean Association, Hudson, Iowa, "Soybean Situation and Outlook."

John Terrall, vice president, Mid-south Soybean and Grain Shippers Association, Lake Providence, La., "Problems Affecting Elevator Operators and Producers."

E. E. Hartwig, agronomist, Delta Branch Experiment Station, Stone-

ville, Miss., "Varieties, Diseases and Production Practices."

Grover Dowell, entomologist, Agricultural Extension Service, Little Rock, Ark., "Insect Control."

Jake Hartz, Jr., past president, American Soybean Association, Stuttgart, Ark., will preside at the afternoon meeting. C. A. Rose, county agent, Lake Providence, will extend a welcome.

Coordinating committee for the meeting is N. E. Thames, district agent, Agricultural Extension Service, Louisiana State University, Baton Rouge, La.; Lee Moseley, district agent, Agricultural Extension Service, Delta Branch Experiment Station, Stoneville, Miss.; and Byron Huddleston, acting district agent, University of Arkansas, Little Rock, Ark.

Sponsors of the meeting are the Agricultural Extension Services of Arkansas, Mississippi and Louisiana; the Mid-south Soybean and Grain Shippers Association; Louisiana Cottonseed Products Association; Agricultural Council of Arkansas; Delta Council of Mississippi; and Louisiana Delta Council.

Announce Research Program for Texas

THE 1960 RESEARCH program of the High Plains Research Foundation, Halfway, Tex., has been expanded by the executive committee of the board of trustees, Harold Timm, chairman of the board, announced.

Soybean and sesame variety testing has been expanded to include fundamental plant breeding investigations to develop varieties specifically adapted to the High Plains area. The program was enlarged to meet requests of farmers and business representatives for better yielding and more suitable varieties. Additional personnel will be employed to assist Dr. Earl Collister.

"Soybeans could very well be the savior of the agricultural economy of the High Plains in fulfilling a need for a dependable additional crop that can be grown in a rotation with grain sorghum and cotton," said Mr. Timm.

An agreement with the Texas Agricultural Experiment Station, Lubbock, coordinating agricultural research in the area has been approved by the Foundation committee.

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VOLUMETRIC FEEDING
PNEUMATIC CONVEYING



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8" STANDARD DUTY

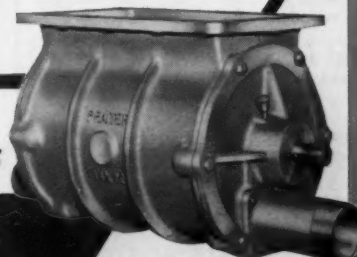
10 DIFFERENT MODELS
3 OUTSTANDING DESIGNS
5 MATERIALS OF CONSTRUCTION
25 ASSEMBLY COMBINATIONS

WRITE FOR
BULLETIN P-58

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GRITS and FLAKES . . . from the World of Soy



Rodger L. Nordbye



Philip S. Duff

Nordbye Succeeds Duff at Archer-Daniels-Midland

Retirement of Philip S. Duff from his positions as secretary, vice president and a director of **Archer-Daniels-Midland Co.** was announced by John H. Daniels, ADM president.

Rodger L. Nordbye, ADM general counsel, was elected to succeed Duff as secretary effective Jan. 1, when Duff left ADM after more than 31 years of service.

Nordbye, formerly associated with the Minneapolis law firm of Faegre and Benson, joined ADM last July 1. He will continue as general counsel in addition to his new duties as secretary.

Duff joined ADM in 1928 as manager of flaxseed purchasing and remained in charge of that department until 1955. He was elected a director of the company in 1929, secretary in 1943 and a vice president in 1945.

Duff is immediate past president of the Minneapolis Grain Exchange, trustee of the United Hospital Fund of Minneapolis and a director of Associated Industries of Minneapolis.

Allen Has Rejoined The Shanzer Co.

L. Joy Allen, veteran grain industry sales executive, has rejoined **Shanzer Manufacturing Co.** in the capacity of sales manager for the eastern half of the United States.



L. Joy Allen

With the exception of a few months in late 1959, Allen has served with the Shanzer sales organization for over 12 years.

In addition to sales supervision east of the Mississippi, Allen will direct all company work east of Denver. He will continue to make his home in Jackson, Mich.

Cargill Broadens Research Program

A major broadening of research activities, including establishment of two new departments and creation of three executive posts, has been announced in Minneapolis by the research and product development division of **Cargill, Inc.**

New departments include a biochemical section and a process development group, both located at Cargill research headquarters.

Dr. Richard Baldwin, research director who announced the additions, said, "These functions, coupled with our present activities, enable us to investigate an even wider range of new and different uses for agricultural products." Other company research operations include analytical and organic chemistry, vehicle development, grain, vegetable oil, and technical service

laboratories, and the Cargill-Nutrena research farm.

Dr. Russell Eversole, former professor at the University of Connecticut and Stanford University, will head the new biochemistry section, Baldwin said.

Fetzer Retires from Nitragin Sales Corp.

James Fetzer, **Nitragin Sales Corp.** representative for the past 23 years, has retired, James F. Matchette, sales manager, announces.

Marion Fryer has been appointed as a Nitragin representative to replace Mr. Fetzer. He is a graduate



Marion Fryer

of Ohio State University College of Agriculture and has been associated with the agricultural trade in Ohio, Kentucky, Pennsylvania and Michigan for the past 10 years.

Mr. Fryer resides at 1109 Golfview, Washington C. H., Ohio, telephone 6-2762.

Borchardt Has Succeeded Manley at General Mills

Lester F. Borchardt, director of physical research at **General Mills' Central Research Laboratories**, Minneapolis, has been named managing director of the laboratories, President C. H. Bell said.

Borchardt replaces Dr. R. H. Manley, who announced plans to retire from business effective Feb. 1.

A University of Minnesota graduate, Borchardt has been with General Mills 26 years in various research positions. For the past 7 years he has directed research efforts at the Central Research Laboratories in physics, packaging, milling, and mechanical engineering.

Borchardt played a prominent role in developing and perfecting a basic process for producing vitamins, which laid the base for the company's vitamin D operations.

Bell said that Borchardt will attend an advanced course in management training at Harvard University and will assume his new position full-time by June 1.

Dr. Manley plans to move to Tucson, Ariz., where he has agreed to serve as executive director of the Arizona Research Foundation.

Send For Economou's

Soybean Market Forecast Weekly

You are invited to receive this new price advisory service—covering SOYBEANS, MEAL and OIL—for the next 30 days without cost or obligation. Each letter brings you—

- ... Review of developments in futures market together with forecast of probable price action over the near-term.
- ... Technical analysis of price action based on Line Charts, Point & Figure Charts, Moving and Cumulative Averages.
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Regular rates for the SOYBEAN MARKET FORECAST WEEKLY are \$150.00 a year; or \$85.00 for six months. However, to introduce the service, we will be pleased to send it to you for 30 days without cost or obligation. Send for it today.

ARTHUR N. ECONOMOU

Commodity Price Analyst
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Catron Leaves Iowa State for Feed Firm

Damon V. Catron, professor of animal nutrition and in charge of swine nutrition research at Iowa State University, will become vice president in charge of research and marketing of **Walnut Grove Products Co., Inc.**, Atlantic, Iowa, May 1, President J. J. O'Connor has announced.



Damon Catron

Dr. Catron joined Iowa State in 1945. He and his staff have made research contributions in antibiotics, vitamin B-12, trace minerals, protein requirements, and in baby pig nutrition. His research led to an American Feed Manufacturers Association award in 1954 for outstanding research in animal nutrition.

Dr. Catron has also served on the staffs of Purdue University and the University of Illinois where he did his undergraduate and graduate work. He received his Ph.D. degree from Iowa State University.

In 1958 the Soybean Council of America, Inc., sent Catron to Europe, where he acted as consultant to livestock nutritionists and feed manufacturers. He took part in the annual conference of Italian feed manufacturers at Rome, where he discussed the usage of soybean meal in formula feeds.

Staley Offers a New Soybean Feed Product

The **A. E. Staley Manufacturing Co.**, Decatur, Ill., has developed a new animal feed product mixture that includes soybean hulls and molasses.

Notification has been received by the Staley Co. that its patent application on the mixture and the mixing process has been allowed and issuance of a patent is expected soon.

E. C. Lane, manager of Staley's meal sales department, said the product currently most widely sold under the patent is packaged under the trade name "Sweetone." Marketing and promotion of this product has been underway in several Midwestern areas for some time.

The patent, which covers the mixing of soybean hulls with any hydrophylic and hygroscopic ingredient, will be issued to the Staley Co. Willard Turner and Kenneth Wright are the inventors.

O. R. Schmalzer retired Dec. 31 from his position of vice president and manager of **Buhler Brothers, Inc.**, manufacturer of conveyor systems and cracking and flaking rolls, Englewood, N. J. Mr. Schmalzer had been with the company 36 years, 25 of them in the States. Co-managers will be Berndt Wullenweber, manager of the conveying department, and Frank Kaiser, who has been handling financial and administrative activities.

The board of directors of **Burrows Equipment Co.**, Evanston, Ill., supplier to the grain, feed and seed industries, have elected two new officers, according to an announcement by Parke W. Burrows, president. John W. Wastcoat, general manager, was elected a vice president, and Earl L. Nichols, previously controller, was elected treasurer.

Robert (Bob) Hunt of Wolverine Elevator Service, Chesaning, Mich., has been announced as a new representative of **Prater Pulverizer Co.**, Chicago. Other principals in Wolverine are William (Bill) Moline and Wendell (Wendy) Wilcox.

John E. Capizzano, vice president, and Harold V. Pearson, secretary, **American Mineral Spirits Co.**, were honored for 25 years of service with the company at a recent dinner in New York. A. W. Vallentyne, chairman of the board, and E. M. Toby, president, made the presentation of service awards and gifts to the two officers. Mr. Capizzano began his service with Amsco at the Carteret, N. J., laboratories, later becoming laboratory director. Mr. Pearson became associated with Amsco in the Chicago office in the accounting department, later becoming controller.

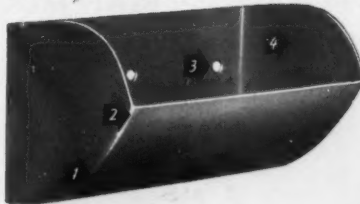
S. Howes Co., Inc., Silver Creek, N. Y., has announced the promotion and reassignment of several key sales personnel, as part of the company's continuing expansion program. Promoted to district manager for the north central territory is James R. Everett, former manager in the Central States. He will make his headquarters in Toledo, Ohio. Named to succeed Mr. Everett in the Central States area, with offices in Chicago, is James H. Voneman. He has been sales engineer for S. Howes in New England the past year. A new southeastern territory has also been created, to serve customers in the South Atlantic States, with John M. Parker, a native of Kentucky, appointed sales engineer in charge.

Fire, touched off by an exploding gas compressor, destroyed the three-Expeller soybean processing plant of the **West Bend Elevator Co.** at West Bend, Iowa, Jan. 2. Manager R. W. Jurgens estimated the damage at over \$100,000. Dave Zaugg, a volunteer fireman, suffered a heart attack and died while fighting the flames.

Werner L. Nelson, Lafayette, Ind., Midwest director of the **American Potash Institute**, has been elected vice president of the Soil Science Society of America for the coming year.

Spencer Kellogg & Sons, Inc., Buffalo, N. Y., announces the appointment of Charles C. Clark to their research staff. He will be engaged in a variety of chemical research activities including consultation, program planning and coordination, exploratory research, market research and patents.

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PUBLICATIONS

Outlet for Fats as Jet Lubricant

DOMESTIC USE for synthetic lubricants made from fats is expected to increase to about 26 million pounds in 1961, according to a report issued by the U. S. Department of Agriculture. The amount used in 1957 was 10 million pounds.

The report gives the results of market analyses of farm-produced

fats and oils that are chemically convertible to materials used in synthetic lubricants for turbine-powered aircraft, and also in lubricant additives.

The market for diester-based synthetic lubricants is growing with the development of military jet aircraft. Now civilian airliners with

turbine engines are creating a new demand. For the future, use of this lubricant in more aircraft and perhaps in automobiles and trucks with turbine engines is expected.

Newer turbine jet engines will require lubricants that can withstand temperatures up to 400° F. and higher, whereas maximum heat tolerance of diester-type synthetic lubricants used today is from 250° to 300°. Where high operating temperatures are needed, the newer lubricants will displace diester-based materials.

The research was under contract and is part of a broad program of research aimed at expanding the market for farm products.

A copy of the report, AMS-353, "Market Potentials for Fats and Oils in Synthetic Lubricants and Lubricant Additives," may be obtained from the Agricultural Marketing Service, U. S. Department of Agriculture, Washington 25, D. C.

Successful Device for Measuring Oil Content

AN ELECTRONIC device for quickly measuring the oil content of soybeans has been tested commercially and is reasonably successful, but needs further refinements before it is put into general use, the U. S. Department of Agriculture has said in a recent research report.

Improvements now being developed may make it possible to pay producers on the basis of the oil content of the beans, the researchers believe.

The new device now measures the oil content as accurately as the content can be estimated on the basis of the usual grading practices, USDA's Agricultural Marketing Service researchers found. With further refinements, it can be made to give results as accurate as those from laboratory tests, it is believed.

It makes results available in about 15 minutes, as against 8 hours for a laboratory test, and no technical skill is required to operate it.

The value of soybeans depends largely on their oil content. A more equitable pricing system therefore may result from use of the new device.

A copy of the report, "Evaluating Soybeans by the Dielectric and Other Methods," Marketing Research Report No. 367, can be obtained from the Office of Information, U. S. Department of Agriculture, Washington 25, D. C.



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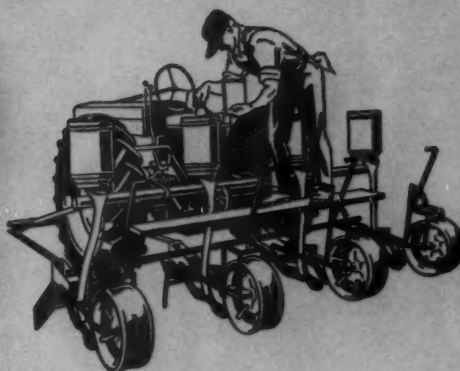
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New ORTHO Soybean Seed Protectant developed specifically for planter box treatment.



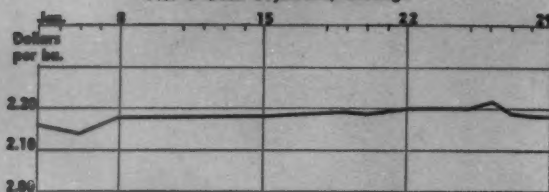
- No seed treating equipment needed—treat seed right in the planter box (as shown above).
- Saves time and money by planting and treating at the same time.
- Reduced handling of seed lowers the percentage of cracked or "split" seed planted.
- Easy handling—a measuring cup supplied in each can.
- Built-in lubricant aids seed flow and lubricates moving parts of planter.



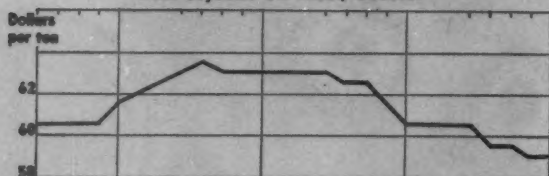
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A Subsidiary of California Chemical Co.
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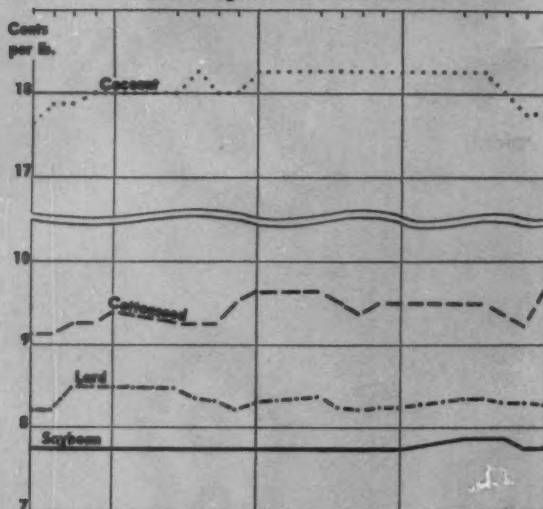
DAILY MARKET PRICES
No. 1 Cash Soybeans, Chicago



Bulk Soybean Oil Meal, Decatur



Crude Vegetable Oils and Lard



January Markets

SOYBEAN MEAL gained \$3 in January and reached the highest point since January 1959, but all gains were lost during the last 10 days of the month. Soybeans regained much of the ground lost in November and December, and oil also showed a little strength.

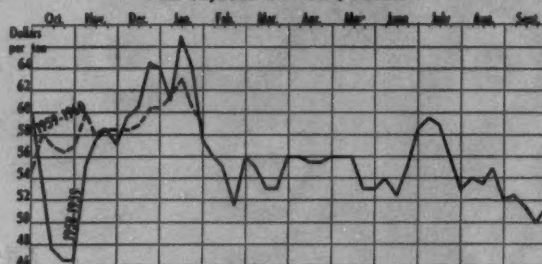
Market factors included the continued farm holding policy with fewer soybeans moving to market in January than had been expected. There was a larger volume of soybeans in stocks as of Jan. 1 than was looked for. But the amount going under the support program was

1958 AND 1959 SOYBEAN CROPS		
	1959	1958
Soybean stocks in all positions Jan. 1	454,479,000 bu.	471,329,000 bu.
Total soybeans placed under price support Dec. 31	32,851,672 bu.	97,683,948 bu.
Total soybeans withdrawn from support as of Dec. 31	247,579 bu.	166,000 bu.
Soybeans crushed first quarter	105,200,000 bu.	101,341,324 bu.
Balance on hand for processing or export Jan. 1	418,479,000 bu.*	433,077,000 bu.*
Total soybeans inspected for overseas export plus lake shipments to Canada Oct. 1-Jan. 22	64,393,515 bu.	46,809,339 bu.
* Stocks all positions less than 36 million bushels for farm use.		

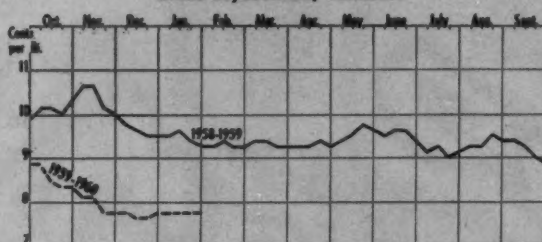
TRENDS AT A GLANCE (Weekly Close)
No. 1 Cash Soybeans, Chicago



Bulk Soybean Oil Meal, Decatur



Crude Soybean Oil, Tankcars



only a third that of a year ago and some expected larger marketings to show up for this reason.

There were reported cutbacks in processor operations, but the December crushing report of 33.8 million bushels was larger than some expected, and the processing total ran 4 million bushels ahead of a year ago in the first quarter of the new marketing year.

Exports continued at a faster clip than a year ago, and by Jan. 22 were running 17.5 million ahead of 1958-59.

Commodity Credit Corp. was largely sold out of 1959-crop beans in good position.

General Services Administration announced the first sale of coconut oil from its stockpile in January.

BY-PRODUCTS. The price of soybean acid soapstock remained at 4½¢ per pound during January, and raw soybean soapstock at 1½¢.

CASH PRICES, JANUARY*

	No. 1 yellow soybeans	Bulk soybean meal	Soybean oil	Cottonseed oil Mississippi	Coconut oil Pacific	Lard
Jan.	Chicago	Decatur	Decatur	Valley	Coast	Chicago
4	\$2.15½	\$60.50	\$.07½	\$.09½	\$.17½	\$.0822
5	2.15	60.50	.07½	.09½	.17½	.0822
6	2.15½	60.50	.07½	.09½	.17½	.0845
7	2.16	60.50	.07½	.09½	.18	.0850
8	2.17½	61.50	.07½	.09½	.18	.0847
11	2.17½	63.00	.07½	.09½	.18	.0845
12	2.18	63.50	.07½	.09½	.18½	.0835
13	2.17½	63.00	.07½	.09½	.18	.0832
14	2.17½	63.00	.07½	.09½	.18	.0822
15	2.17½	63.00	.07½	.09½	.18½	.0830
18	2.19	63.00	.07½	.09½	.18½	.0837
19	2.19½	62.50	.07½	.09½	.18½	.0825
20	2.18½	62.00	.07½	.09½	.18½	.0822
21	2.19½	61.50	.07½	.09½	.18½	.0825
22	2.20	60.50	.07½	.09½	.18½	.0825
25	2.20½	60.50	.07½	.09½	.18½	.0835
26	2.21½	59.50	.07½	.09½	.18½	.0835
27	2.19½	59.50	.07½	.09½	.18	.0830
28	2.18½	58.50	.07½	.09½	.17½	.0830
29	2.18½	58.50	.07½	.09½	.17½	.0827

* From Wall Street Journal, Chicago



NOW OLEFIN - FREE...LOW AROMATICS!

*Extractors who check
the Boiling Range use*

ESPESOL Normal
HEXANE and HEPTANE

(152°—156° F Typical)

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Get these narrow boiling range benefits:

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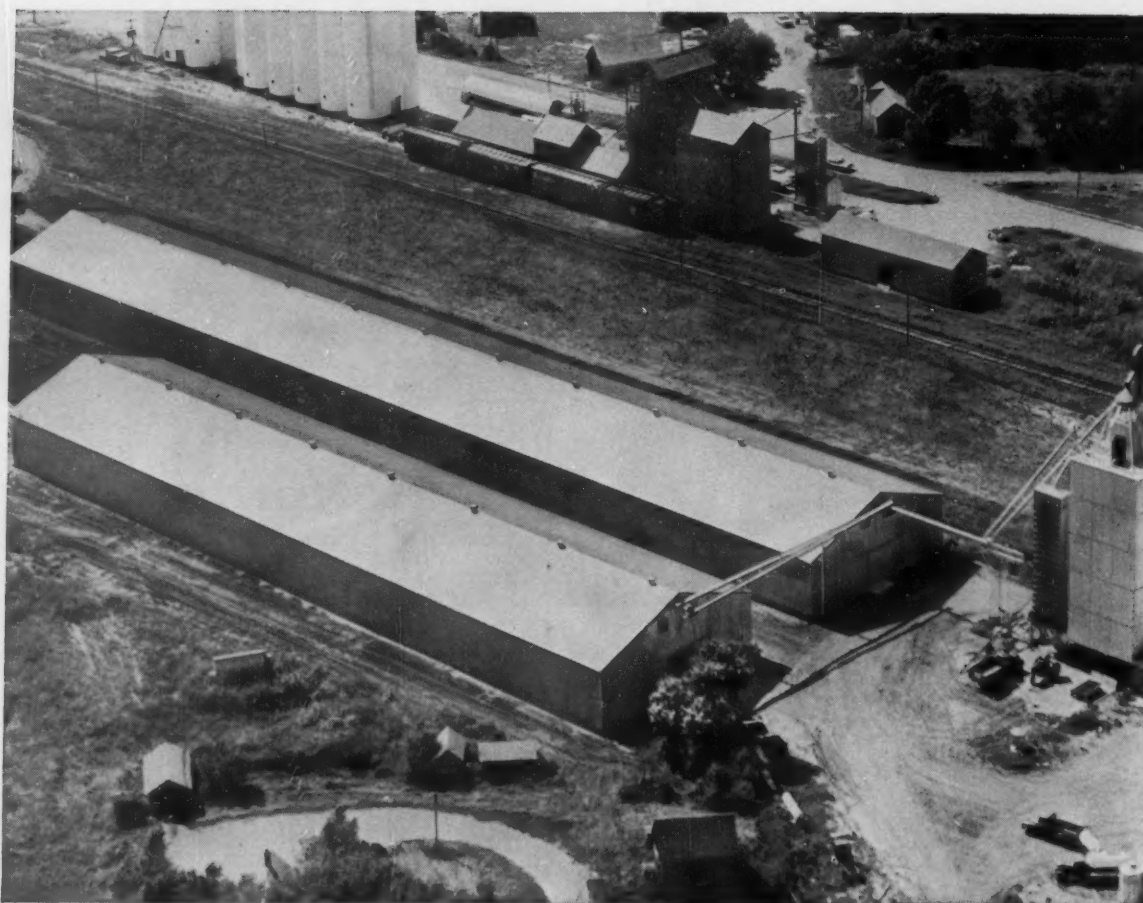
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NEW PRODUCTS and SERVICES

MEAL DRIER. Advanced soybean meal drying machinery is announced by Edw. Renneburg & Sons Co., comprised of the Renneburg (patented) DehydrO-Mat Dryer, or combination Dryer-Cooler, and the Refractoryless Gas-Fired Air Heating Furnace.

"The DehydrO-Mat's shape and large diameters conform to the true theory of drying, conserve valuable floor space, permit smaller factory buildings, reduce construction costs," the manufacturer says. "It is possible to dry as much product in a 35-foot long DehydrO-Mat as is usually dried in a 50 to 60-foot long conventional straight shell soybean meal drier."



Coupled with the DehydrO-Mat is the Renneburg Refractoryless Double Shell, Air Cooled Steel Combustion Chamber which completely eliminates the need for insulation and refractories. These furnaces are currently manufactured in sizes up to 30-million-BTU-per-hour capacities. The furnace occupies only half of the floor area and weighs only one-fifth that of conventional refractory line furnaces of the same BTU per hour heat input.

The combination is revolutionary in principle and an advance in drier and cooler design, the manufacturer states.

For copy of bulletin No. D959 describing the DehydrO-Mat drying system, write Soybean Digest 2c, Hudson, Iowa.

FARM DRIERS. A new educational booklet titled, "Wet Years or Dry . . . on-farm drying pays every year," has been announced by Butler Manufacturing Co.

The theme of the book is that on-farm drying is a vital link in any modern grain harvesting and marketing plan, not just an emergency measure. And that on-farm drying should be considered as a long range plan for more profitable farming every year.

Suggested plans for installation of Stor-N-Dry bin drying centers and batch drying centers featuring push button grain handling are illustrated in the booklet. Butler is offering the "Wet Years or Dry" report without charge to farmers, Vo-Ag teachers and students, county agents, bankers, and other agricultural service organizations that might be interested in distributing copies without charge.

For further information write Soybean Digest 2d, Hudson, Iowa.

SCREENERS. Orville Simpson Co. announces that its new Rotex Screener catalog, Bulletin 905, is now available. This 32-page book contains complete and detailed information on Rotex Screeners and their various applications in industry.

Of special interest to those concerned with screening is the inclusion of the comparative opening reference table for silk, nylon, and wire screen cloth. The table has been expanded to include nylon bolting cloth, stainless steel light wire screen and the U. S. standard testing screen series.

For further information write Soybean Digest 2f, Hudson, Iowa.

FEBRUARY, 1960

MOISTURE

INSTANTANEOUS
CONTINUOUS

MEASUREMENT
RECORDING
CONTROL

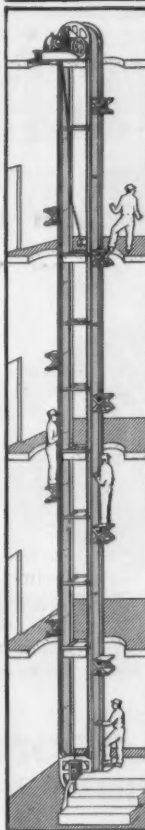
ROGERS MOISTURE CONTROLLER

FOR: CONTROL OF MOISTURE IN GRANULAR MATERIALS SUCH AS MEAL, FEEDS, SEEDS, STARCH • ON A GUARANTEED BASIS.

TO: Increase Profits • Step Up The Efficiency Of Drying-Cooling Or Tempering Processes • Up-Grade Products • Speed Production.

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HUMPHREY Manlift ELEVATOR

- ★ Eliminates Stair Climbing
- ★ Saves Time—Reduces Fatigue
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The Humphrey Elevator transports personnel simultaneously up and down—eliminates all stair climbing—provides quick access to any floor for servicing machinery. Riders just step on and off—control rope instantly starts and stops the endless belt—no waiting or lost time!

Can be installed in new or old multi-floor buildings. Initial cost, installation and operating costs are much lower than conventional elevators. Widely used in garages, flour mills, grain elevators, paper mills and all types of industrial mills and factories.

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Soybean Exports at All-Time High

"A REDUCTION in foreign exportable supplies brightens the export prospects for U. S. beans and edible oils, and any further tightening of world supplies of oilseeds, fats and oils could spark a soybean price rise."

This is a quotation from a section of the USDA Demand and Price Situation for January on fats and oils products. It is technically correct. The question is whether there will be further tightening of the fats and oils supplies.

Officials now feel that supply and demand are close enough in balance that price could go one way or the other at this stage.

Soybean prices received by farmers during the heavy harvesting months of October through December averaged \$1.97 a bushel. This is 12¢ a bushel above the average price support rate, and 4¢ higher than the year before.

Soybeans have been fed into the market by farmers at a moderate rate during the heavy marketing

months. At the end of the year soybeans placed under price support totaled only 32,851,672 bushels, and nearly 248,000 bushels of these had been redeemed. Three times this total—nearly 98 million bushels—had been put under price support during the same period a year ago.

Commodity Credit Corp. has sold nearly 30 million bushels of carryover beans during the 3-month period. Its stocks were down close to 11 million bushels in mid-January.

Soybean crushings have posted a new record during the October-December period. They total 105 million bushels, compared with the 101 million for the same months last year.

Soybean exports have reached a new high for the first quarter, also. Exports from October through early January are estimated at 59 million bushels. This is 15 million bushels above last year's record total.

For the marketing year, officials are sticking to their early estimate of 125 million bushels for soybean



By PORTER M. HEDGE
Washington Correspondent for
The Soybean Digest

exports. They are also sticking so far with earlier estimates of a 400-million-bushel soybean crush this season.

If the estimates pan out, carryover next fall is now calculated at about 40 million bushels. This is approximately a third lower than carryover last fall.

Soybean Crush

Some questions again are being raised, however, whether the crush can be kept at a 400-million-bushel level without some further action—use of a donations program for oils, government stockpiling, or a further tightening of supplies from other sources.

During the first quarter of the marketing season crude soybean oil at Decatur averaged 8.1¢ a pound, says USDA. This is the lowest level in 2 decades. Prices are expected to remain low throughout the marketing year. There is some feeling that meal prices will have to come down a little in the absence of other action, if a 400-million-bushel crush is to be realized.

Domestic demand for soybean oil is expected to remain high this season. Total exports of edible oils—cottonseed and soybean—are estimated at about the same volume as last year, but with soybeans making up a smaller part of the total than a year ago.

USDA says in the recent Demand and Price Situation: "The recent advances in European peanut oil prices due to smaller supplies from Africa enhances the competition positive of U. S. edible oils, and likely will boost our 1959-60 dollar exports."

"Furthermore, typhoon damage has reduced the Philippine copra crop, so it is likely that exports of coconut oil to Europe may not increase from last year's relatively low level."

"The tightening in the supply of fats and oils from sources outside the United States means that importing countries will need to rely

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more on the United States as a supplier, because we are the only major producer with larger quantities available for export."

Foreign Agricultural Service officials think that the total supply of oilseeds in China is smaller this season than last, though China's soybean crop may be just as large. Some Russian oilseed supplies are believed to be lower, but cotton is up and Russia may have more animal fats than last year.

So far, edible oil exports this season are running above a year ago. For the 2 months for which official figures are available—October-November—edible oil exports totaled nearly 195 million pounds, compared with 115 million pounds for the same months last year. However, cottonseed oil made up a bigger portion of the total. Exports to dollar markets are larger this season so far, while P. L. 480 shipments are lower.

Spain has been the big taker of soybean oil under the P. L. 480 program. This year the Spanish olive crop is estimated to be about a third higher than a year ago. This is bound to reduce P. L. 480 shipments to that country. About 136 million pounds of edible oils have been authorized for delivery to Spain under the 480 program this season.

Price Projection

What would happen to farm prices if all acreage controls were dropped, except those on tobacco, and price supports were established at levels which would permit an orderly reduction in surpluses within 7 to 10 years?

This is a question posed to the Department of Agriculture by Senator Allen J. Ellender, chairman of the Senate agriculture committee, last May. The Department has now come up with a report, to be printed as Senate Document No. 77, giving its assessment of prices under these conditions in 1965.

The estimate for soybeans is \$1.60 a bushel compared with an average farm price of \$1.98 in December. The estimate for flaxseed was \$2.50 a bushel (\$3.20 in December). Other crop estimates include: corn 80¢ a bushel (96¢ in December); cotton 25¢ a pound (30¢ in December); rice \$3 a hundredweight (\$4.59 Dec.).

Ellender asked a committee of six Land Grant College economists to advise on the study. They regarded the USDA price projections as being on the high side. They estimated net farm income would drop to around \$7 billion. The preliminary estimate for this year is \$11.5 billion. The

economists felt production would continue to increase, slowly.

Albert Report

A House agriculture committee team under Congressman Carl Albert of Oklahoma is bringing out a report based on an inspection trip to Europe last fall to see how U. S. farm export products are received.

The report says there is a "shocking lack of quality" in many farm products sent to Europe; that this is the most frequent complaint about farm imports from the United States; and that the complaint was registered in every country visited.

American agricultural attaches were unanimous in reporting that one of the principal needs for building increased farm markets is to improve the quality and the reliability of U. S. exports.

The report charges that too many exporters look to Europe as a dumping ground; that the United States in many cases is losing rather than gaining friends because of "slugged" and otherwise poor quality cargoes. It recommends that Congress take another look at how farm exports are being handled under government programs, and at U. S. grade standards.

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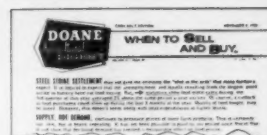
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- MARKET STREET -

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SEED DIRECTORY

ARKANSAS

Blytheville—Glen A. Cook, Rt. 4, Box 235, 1,800 bu. Arkansas Blue Tag Lee; 1,000 bu. Arkansas Blue Tag Ogden; 400 bu. Arkansas Blue Tag Hood; 400 bu. Arkansas Blue Tag Dorman.

Burdette—G. A. Hale, Hale Seed Farms, 8,000 bu. registered Hale Ogden No. 2.

Grubbs—Denton Brothers, Inc., 4,000 bu. registered and certified Hood.

Jonesboro—Mode Gregory, 1311 W. Matthews, 600 bu. registered Hood.

Stuttgart—Jacob Hartz Seed Co., Inc., Box 109, registered Hood; registered Lee; registered and certified Jackson; certified Ogden; certified Dorman; all varieties non-certified.

Wilson—L. Wilson & Co., seed and chem dept., certified Lee.

Wynne—Holleman Seed Service Co., Rt. 1, Box 129, 4,000 bu. certified Lee; 4,000 bu. certified Jackson; 1,000 bu. registered Hood; also uncertified Lee and Jackson.

ILLINOIS

Fairmount—Trisler Seed Farms, Inc., 2,000 bu. certified Wabash; 1,300 bu. certified Lincoln; 2,000 bu. certified Shelby; 2,000 bu. certified Harosoy; 500 bu. certified Hawkeye; 500 bu. certified Adams.

Gibson City—Noble Brothers Seed Co., good stocks certified Clark; certified Shelby; certified Lindarin; certified Hawkeye; certified Harosoy; certified Adams; uncertified Clark, Harosoy, Lincoln, Adams and Hawkeye.

Mundelein—Huebsch Seed Farms, 135 Midlothian Rd., 2,000 bu. certified Hawkeye; 1,000 bu. certified Harosoy.

Pontiac—Wilken Seed Grain Co., Rt. 4, 5,000 bu. certified and uncertified Harosoy; 3,500 bu. certified and uncertified Hawkeye; 1,500 bu. certified and uncertified Adams; 2,500 bu. certified Shelby; 400 bu. certified Lindarin.

Ridgway—Jones Farm Store & Elevator, 8,000 bu. Kingwa hay beans; 5,000 bu. Virginia hay beans, packed in 2-bu. bags; 40,000 bu. certified and uncertified Clark.

San Jose—Kelly Seed Co., 3,000 bu. certified Hawkeye; 4,000 bu. certified Harosoy; 3,000 bu. certified Clark; 5,000 bu. registered No. 1 Shelby.

Sullivan—Landers Seed Co., registered I Shelby; registered II Harosoy; certified Hawkeye; certified Adams; also uncertified of above varieties and Clark.

INDIANA

Lafayette—Agricultural Alumni Seed Improvement Association, Inc., Rd. 52 N., foundation seed for certified production of Shelby, Lindarin and Clark.

Mt. Vernon—Naab Farm Seeds, Rt. 2, 3,000 bu. certified Shelby.

Valparaiso—Wyckoff Hybrid Corn Co., certified Chippewa; certified Blackhawk; certified Harosoy; certified Hawkeye; uncertified Monroe.

Walton—Geo. M. Hopper, Hopper Farms, Rt. 2, 600 bu. certified Harosoy.

IOWA

Conroy—Henry G. Plagmann, Jr., 700 bu. certified Ford, 92% germ.

Hudson—Strayer Seed Farms, 1,200 bu. certified Ford; 500 bu. certified Kanrich (vegetable); 600 bu. certified Kim (vegetable).

Laurel—Vern Seitzmann or Bert Benskin, certified blue tag Ford, packed in 1½ bu. bags.

Lynnville—Lynnville Seed Co., 4,000 bu. uncertified Lincoln; 4,500 bu. uncertified Adams; 5,000 bu. uncertified Clark; 3,000 bu. certified Ford; 10,000 bu. uncertified Hawkeye.

Marcus—Sand's Seed Service, 20,000 bu. certified Hawkeye; 40,000 bu. uncertified Hawkeye; 3,000 bu. uncertified Chippewa.

Minburn—E. Howard Hill, 1,000 bu. certified Ford, phone Ken Joslin, 12R15.

Ogden—Clarence E. Carlson, Rt. 1, 700 bu. certified Ford.

Union—Merle Stanfield, Rt. 1, 1,500 bu. certified Ford.

Washington—Frank J. Patterson, Rt. 4, 800 bu. Iowa B. T. certified Ford.

MARYLAND

Silver Spring—Dr. Arnold Bianco, 212 Indian Spring Drive, 3,500 bu. registered Hill.

MINNESOTA

Bird Island—A. A. Ziller, 200 bu. certified and registered Ottawa Mandarin; 200 bu. certified and registered Capital; 400 bu. certified and registered Grant; 400 bu. certified and registered Norchief; 300 bu. certified Comet; 1,000 bu. certified and registered Chippewa; 300 bu. uncertified Acme.

Lake Crystal—Wayne Othoudt, 400 bu. registered Blackhawk; 70 bu. certified Ottawa Mandarin; 250 bu. registered Grant; 500 bu. certified Chippewa; 100 bu. registered Comet.

MISSISSIPPI

Hattiesburg—Leo W. Klarr, Ellkay Farms, Rt. 1, Box 184, 8,000 bu. certified Jackson.

MISSOURI

Hayti—Jacob Van Dyke, Rt. 1, Box 443, 1,000 bu. registered and certified Hood.

Louisiana—Farm Supply Co., certified Shelby; certified Clark.

McCrede—Wise Bros., 5,000 bu. certified Shelby.

Monticello—Hilburn Fishback, 750 bu. certified Shelby; 750 bu. uncertified Shelby.

Slkeston—Dye Seed Service, Box 468, limited number registered Hill; truckload lots registered Hood.

NEBRASKA

Elk City—Wahlgren Seed Farms, 1,200 bu. certified Ford; 1,500 bu. certified Clark.

Rising City—Wm. A. Miller, Rt. 1, 900 bu. certified Ford.

West Point—Fred A. Meyer, Rt. 2, Box 98, 80 bu. certified Ford; 175 bu. certified Harosoy; 50 bu. uncertified Chippewa.

NORTH CAROLINA

Aberdeen—D. P. Troutman, 407 N. Popular St., 500 bu. registered Hill.

Seima—Gurley Milling Co., Box 488, 5,000 bu. uncertified Lee; 2,500 bu. certified and registered Lee; 5,000 bu. uncertified Jackson; 1,000 bu. certified Jackson; 1,000 bu. certified Hood; 500 bu. certified Hill; 2,500 bu. uncertified Roanoke; 1,000 bu. uncertified Ogden; 3,000 bu. uncertified J.E.W. 45; 2,500 bu. uncertified C.N.S. 4 and 24; 500 bu. Wood's Yellow; 500 bu. Tokyo and other varieties.

OHIO

Covington—Ebberts Field Seed Co., 15,000 bu. uncertified Hawkeye, 90% germ.

Green Springs—Ohio & Michigan Seed Co., Box 28, truck or less truck lots certified Hawkeye, Lincoln and Harosoy.

Hillsboro—Arthur Roy Kinzer, Rt. 3, 100 bu. uncertified Shelby.

Mechanicsburg—Scott Farm Seed Co., 2,000 bu. certified Clark.

SOUTH CAROLINA

Mayesville—W. R. Mayes, Box 46, 2,000 bu. certified Jackson; 3,000 bu. uncertified Jackson; 1,000 bu. certified Coker's Yel-nanda.

St. Matthews—L. B. Wannamaker Seed Co., Box 194, Lee, Jackson, C.N.S. 4 and J.E.W. 45, certified and uncertified, large quantities.

TENNESSEE

Halls—William G. Spence, Rt. 3, 2,000 bu. certified Hood, 1,000 bu. uncertified Ogden.

Memphis—Denning & Caldwell, 3461 Highland Cove, 600 bu. certified Hood.

VIRGINIA

Clay Bank—Louis Groh & Son, Inc., 10,000 bu. uncertified Lee; 8,000 bu. uncertified Black Wilson; 5,000 bu. uncertified Ogden; 10,000 bu. uncertified Hood; 3,000 bu. certified Hood; 2,000 bu. certified Hill.

Norfolk 15—Davis Grain Corp., Box 7595, certified Hood, Lee, Ogden.

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Colfax—E. F. Meyers, Rt. 2, 240 bu. certified Chippewa.

Kenosha—Iverson Seed Service, Rt. 4, Box 720, 2,000 bu. certified Blackhawk; 1,000 bu. certified Chippewa.

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Upper photo shows soybeans choked with weeds. Lower photo shows healthy soybeans growing freely after treatment with ALANAP, the pre-emergence weed killer.



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IN THE MARKETS

STOCKS ON FARMS. Soybeans stored on farms Jan. 1 were estimated at 198 million bushels, according to the U. S. Department of Agriculture crop reporting board. This is only 4 million less than the record 202 million on farms a year ago but is 75% more than the 10-year average. Resealed soybeans still on farms Jan. 1 are included in the farm totals. As of Nov. 30, the latest date available, this total amounted to nearly 14 million bushels. The government farm reseal storage program was initiated for the 1958 soybean crop.

From a supply of 555 million bushels on Oct. 1, 1959 (1959 production of 537.9 million bushels plus 17.1 million bushels farm carryover), the movement from farms for the October-December quarter amounted to about 357 million bushels. This compares with 380 million bushels from the same quarter in 1958 from a slightly larger supply. Harvest of the 1959 crop started rather early but was delayed by wet weather. However, a considerable amount was combined before Oct. 1 and some new-crop soybeans were processed before that date. This quantity is included in the apparent disappearance for the October-December quarter.

Farm stocks on Jan. 1 were lower than last year in the heavy producing North Central area and also in the South Atlantic States. However, the North Central States still accounted for 87% of the U. S. total. Farm storage in the South Central States is gradually increasing with all producing states in the area showing higher totals than a year ago. Most of the increase recorded was in Arkansas, Mississippi, and Kentucky.

Soybean stocks on farms Jan. 1, crop reporting board, AMS, USDA (1,000 bu.)

Average 1949-58	1959	1960	Average 1949-58	1959	1960
N. Y.	63	61	38	569	1,189
N. J.	210	360	423	1,126	1,574
Pa.	213	148	269	1,535	2,506
Ohio	9,222	11,614	13,012	722	2,020
Ind.	15,237	23,280	24,045	179	394
Ill.	31,473	53,902	52,756	138	161
Mich.	1,315	2,865	3,240	802	722
Wis.	496	1,061	879	675	1,622
Minn.	14,026	25,349	22,500	147	238
Iowa	20,846	37,345	32,355	1,569	3,864
Mo.	6,957	14,412	16,185	1,868	7,446
N. Dak.	457	1,484	1,817	212	286
S. Dak.	820	1,489	788	84	152
Nebr.	808	2,719	2,340	11	207
Kans.	933	2,871	2,734		
Del.	436	652	723		
U. S.	113,049	201,993	198,393		

1 Short-time average.

Soybean stocks on farms, specified dates, revised estimates crop reporting board, AMS, USDA (1,000 bu.)

Apr. 1, 1959	July 1, 1959	Oct. 1, 1959	Apr. 1, 1959	July 1, 1959	Oct. 1, 1959
N. Y.	26	10	5	361	85
N. J.	135	17	6	363	121
Pa.	46	26	10	1,357	418
Ohio	7,868	1,873	375	1,066	84
Ind.	11,640	3,369	919	146	28
Ill.	31,207	5,674	2,128	58	
Mich.	2,255	518	244	342	76
Wis.	800	96	70	1,297	130
Minn.	17,259	8,630	4,315	163	30
Iowa	29,399	11,124	7,151	1,288	184
Mo.	8,869	1,386	554	3,723	248
N. Dak.	1,187	371	260	86	29
S. Dak.	1,042	387	149	121	10
Nebr.	1,669	618	433	83	28
Kans.	1,760	139	93		
Del.	199	72	18		
U. S.	125,815	35,781	17,105		

STOCKS. Soybean stocks of 454 million bushels in all storage positions on Jan. 1 were the second highest of record, being exceeded only by the 471 million bushels on hand a year earlier. Terminal and oilseed processors stocks were slightly above a year ago but these were more than offset by smaller stocks on farms and in other off-farm positions.

Stocks on Jan. 1 indicated a disappearance during the October-December quarter of 146 million bushels

from a supply of 600 million bushels (carryover of 62 million plus 1959 production of 538 million bushels). During the quarter, 105 million bushels were processed for oil and about 57 million bushels were exported. In past years such indicated differences have generally disappeared by the end of the marketing year when the final check is made.

Stocks of soybeans Jan. 1, 1960, with comparisons (1,000 bu.)

	Jan. 1 Av. 1949-58	Jan. 1 1959	Oct. 1 1959	Jan. 1 1960
On farms ¹	113,049	201,993	17,105	198,393
Terminals ²	15,127	42,767	7,550	44,792
Commodity Credit Corp. ³	133	1,954	873	327
Processing plants ⁴	67,294	98,610	4,217	100,570
Interior mills, elevators and warehouses ¹ 4	51,622	126,005	32,645	110,397
Total	247,223	471,329	62,390	454,479

¹ Estimates of the crop reporting board. ² Commercial stocks reported by grain division, AMS, at 44 terminal cities. ³ Owned by CCC and stored in bins or other storages owned or controlled by CCC; other CCC-owned grain is included in the estimates by positions. ⁴ All off-farm storages not otherwise designated, including merchant mills. ⁵ October estimates reported by crop reporting board. January estimates reported by Census Bureau.

	Off-farm total ¹ Jan. 1	1959	1960	Total all positions ² Jan. 1	1959	1960
Ohio	21,784	20,185	33,398	33,197		
Ind.	16,653	16,653	39,933	39,933		
Ill.	69,322	60,703	123,224	113,459		
Minn.	26,306	24,516	51,655	47,016		
Iowa	42,142	43,519	79,487	75,874		
Mo.	15,893	15,893	30,305	30,305		
S. Dak.	503	938	1,992	1,726		
N.C.	3,467	4,240	5,973	6,062		
Tenn.	13,531	13,531	15,528	15,528		
Miss.	9,843	9,843	14,412	14,412		
Ark.	16,727	16,727	25,246	25,246		
Others*	73,266	61,884	105,362	121,959		
U.S.	269,336	256,086	471,329	454,479		

* Other states and unallocated, to avoid disclosing individual operations. ¹ Includes stocks at interior mills, elevators and warehouses, commercial stocks reported by grain division, AMS, at terminals, and those owned by Commodity Credit Corp. which are in bins and other storages under CCC control. ² Off-farm total plus farm stocks.

EXPORTS. Preliminary data on U. S. exports of soybeans and soybean products for November 1959, with comparable data for November 1958, and cumulative totals for October-November in the marketing years 1958-59 and 1959-60, from Foreign Agricultural Service, U. S. Department of Agriculture.

	Unit	November 1958	November 1959	October-November 1958-59	October-November 1959-60
Soybeans	bu.	15,788,503	20,415,350	27,841,636	32,503,267
Soybean oil:					
Crude	lb.	15,769,254	44,578,132	59,263,272	56,666,406
Refined but not further processed	lb.	1,531,354	1,356,654	5,973,570	14,184,816
Refined, deodorized and hydrogenated	lb.	3,113,648	5,896,006	31,547,645	12,925,534

Cottonseed and soybean oils and lard: Exports under Title I, Public Law 480 programs, and total exports, October 1954-November 1959 (million pounds)

	1954- 55	1955- 56	1956- 57	1957- 58	1958- 59	Oct. 1- Nov. 30 1959
Exports under P. L. 480						
Cottonseed	117	291	55	97	141	1
Soybean	—	279	495	592	747	96
Total oils	117	570	550	689	888	97
Lard	—	112	65	3	—	—

Total exports:

Cottonseed	710	611	423	248	404	18
Soybean	50	557	807	803	941	97
Total oils	760	1,168	1,230	1,051	1,345	115
Lard	528	663	530	394	535	79

¹ P. L. 480 exports are reported according to the month in which the bill of lading was dated. ² November exports estimated.

Soybeans: Inspections for export by ports and Great Lakes shipments Calendar year 1959 (1,000 bu.)

Atlantic	Subtotal	Lake Ports	Totals
Morehead City	554	Chicago	12,752
Philadelphia	2,932	Duluth-Superior	279
Baltimore	8,957	Toledo	4,577
Norfolk	7,200	Saginaw	761
Subtotal	19,643	Subtotal	18,369
Gulf		Totals	
New Orleans	44,700	Jan.-Dec. 1959	123,713
Mobile	19,748	Jan.-Dec. 1958	83,508
Corpus Christi	165	Jan.-Dec. 1957	88,944
Port Allen	21,088		

Based on weekly reports of inspections for export by licensed inspectors and does not include rail and truck movement to Canada or Mexico.

**Soybeans: Inspections for export by ports and Great Lakes shipments
December 1959 (1,000 bu.)**

Atlantic		Port Allen	4,768
Morehead City	81	Subtotal	16,669
Philadelphia	790	Lake Ports	
Baltimore	2,425	Saginaw	204
Norfolk	1,292	Chicago	2,200
Subtotal	4,588	Toledo	402
Gulf		Subtotal	2,806
New Orleans	6,720	Totals	
Mobile	5,016	December 1959	24,063
Corpus Christi	165	Jan.-Dec. 1959	123,713
		Jan.-Dec. 1958	83,508

Based on weekly reports of inspections for export by licensed inspectors and does not include rail and truck movement to Canada or Mexico.

Soybeans: Inspections for export by coastal areas and country of destination. December 1959 (1,000 bu.)

Great Lakes		Gulf	
Canada	2,806	Norway	106
Subtotal	2,806	Denmark	1,106
Atlantic		United Kingdom	187
Norway	242	Netherlands	5,421
United Kingdom	553	Belgium	901
Netherlands	1,153	West Germany	2,079
Belgium	75	Israel	958
France	702	Taiwan (Formosa)	450
West Germany	65	Japan	5,025
Israel	873	Other	436
Japan	694	Subtotal	16,669
Other	231	Grand total	24,063
Subtotal	4,588	Total Jan.-Dec. 1959	123,713
		Total Jan.-Dec. 1958	83,508

Based on weekly reports of inspections for export by licensed inspectors and does not include rail or truck movement to Canada or Mexico. In some cases, the ultimate destination of the soybeans exported is not shown on the inspection reports. Therefore, the quantity for each country may vary from official Census data which are based on custom declarations.

Title I, Public Law 480 exports for July-December 1959

December 1959		July 1959-December 1959	
Metric tons	Quantity in pounds	Metric tons	Quantity in pounds
Cottonseed oil		51,634	113,834,000
Soybean oil	1,600	135,186	298,034,000

Foreign Agricultural Service, U. S. Department of Agriculture.

Soybeans, edible oils, and oilseed cakes and meals: Exports, year beginning Oct. 1, 1957 and 1958, and October-November 1958 and 1959

	1957-58		1958-59		1958 ¹ 1959 ¹	
	Million bushels		Million pounds		October-November	
Soybeans	85.5		110.1	27.8	32.5	
Edible oils:						
Soybean	804.0	930.4	96.8	83.8		
Cottonseed	248.0	404.2	18.3	110.8		
Total	1,052.0	1,334.6	115.1	194.6		
Oil equivalent of soybeans	938.9	1,208.6	305.7	356.9		
1,000 short tons						
Cakes and meals:						
Soybean	300.0	512.2	91.8	134.0		
Cottonseed	7.2	27.3	.5	57.8		
Linseed	5.9	31.2	5.0	22.5		
Total	316.3	581.0	97.9	216.5		
Meal equivalent of soybean exports	2,001.0	2,609.0	600.0	764.0		

¹ Preliminary. ² Includes peanut cake and meal and small quantities of other cakes and meals. Compiled from official records of the Bureau of the Census.

FUTURES TRADING. Soybeans led all other commodities in trading volume in the commodity futures markets in 1959, the U. S. Department of Agriculture stated.

Rodger R. Kauffman, Commodity Exchange Authority administrator, said the year's soybean futures volume, primarily on the Chicago Board of Trade, was 4.4 billion bushels, or 43% more than in 1958.

Hedging commitments in soybeans, soybean oil, and soybean meal also averaged above 1958.

Volume of futures trading, all contract markets combined, by commodities, calendar years, 1958 and 1959

	Unit	1958	1959 ¹
Soybeans	1,000 bu.	3,072,477	4,408,283
Cottonseed oil	1,000 lbs.	3,556,800	3,378,060
Soybean oil	1,000 lbs.	9,384,120	8,431,080
Lard	1,000 lbs.	896,300	532,700
Cottonseed meal	tons	61,900	79,430
Soybean meal	tons	11,986,200	21,581,500

¹ Preliminary figures for 1959.

Report from the Board of Trade of the City of Chicago

Soybeans: Estimated overall receipts in Chicago		Increase or decrease		Percent change		Estimated value 1959		Estimated value 1958	
1959 receipts	1958 receipts	000 bu.	000 bu.			000 dollars		000 dollars	
33,817	32,974	843		2.5%		74,404		71,224	

Estimated futures contracts volume of trading, Chicago Board of Trade for calendar year 1959 compared to 1958

	1959 volume (000 bu.)	1958 volume (000 bu.)	Increase or decrease (000 bu.)	Percent change	1959 value (000 dollars)	1958 value (000 dollars)
Soybeans	4,341,000	3,041,169	1,300,000	42.7%	9,376,000	7,025,000
Soybean oil	139,311	156,089	-16,778	-10.9%	1,218,000	1,135,000
Soybean meal	212,807	114,111	98,696	87%	1,190,000	673,000
Lard (drums)	10,908	21,617	-10,709	-50%	39,250	102,500
*Lard (loose)	1,598	527	1,071	200%	7,500	
Cottonseed oil	Nil					

*Lard, loose, only traded last 3 months in year 1958.

FACTORY USE VEGETABLE OILS for October and November 1959. Reported by Bureau of the Census.

Selected edible oils: Production, consumption, and factory and warehouse stocks, November and October 1959 (million pounds)

	Cottonseed oil		Soybean oil	
	Nov. 1959	Oct. 1959	Nov. 1959	Oct. 1959
Production:				
Crude oils	246.3	263.0	389.9	391.2
Refined oils ¹	153.3	143.1	265.4	272.9
Consumption in refining ¹	166.2	154.2	276.4	284.1
Consumption in selected edible and inedible products, ² total	101.4	98.5	253.0	266.6
Consumption in edible products, total	101.1	98.2	237.2	249.3
Baking or frying fats	26.9	27.2	100.8	104.5
Salad or cooking oil	59.3	57.0	41.3	44.2
Margarine	12.1	11.2	92.8	97.8
Other edible products ³	2.8	2.8	2.3	2.8
Stocks, end of month ² , total	389.4	311.6	419.7	321.4
Crude oils	186.9	150.5	254.0	165.4
Refined oils	202.5	161.1	165.7	156.0

¹ Production of refined oils covers only once-refined oil. Degummed soybean oil is reported as crude oil. ² Includes hydrogenated fats (vegetable and animal) and other fats and oils "in process," (e.g. refined cottonseed includes stocks of stearin). ³ Includes confectioners' fats.

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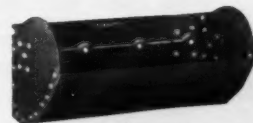
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Vegetable fats: Production, consumption, factory and warehouse stocks, November and October 1959 (million pounds)

	Nov. 1959	Oct. 1959
Production:		
Crude	24.2	22.6
Consumption in selected edible and inedible products ¹ , total	12.0	11.3
Consumption in inedible products, total	12.0	11.3
Soap	(D)	(D)
Paint or varnish	(D)	(D)
Fatty acids	8.2	7.1
Feed	1.2	1.2
Lubricants and similar oils	(D)	(D)
Other inedible products	0.7	1.3
Stocks ¹	39.0	34.3

D—Withheld to avoid disclosing figures for individual companies. ¹Includes hydrogenated fats (vegetable and animal) and other fats and oils "in process." The following quantities of soybean oil were consumed in inedible products in October 1959 and November 1959 respectively: soap (D) and (D); paint and varnish 6.8 and 7.8; fatty acids (D) and (D); resins and plastics 5.7 and 6.1.

PROCESSING OPERATIONS. Reported by Bureau of the Census for November and December 1959.

Primary products except crude oil at crude oil mill locations: Production, shipments and transfers, and stock, December 1959-November 1959 (1,000 tons)

	Production		Shipments and transfers		Stocks end of month	
	Dec. 1959	Nov. 1959	Dec. 1959	Nov. 1959	Dec. 31, 1959	Nov. 30, 1959
Soybean:						
Coke and meal	776.8	*826.8	790.0	*822.9	63.3	*76.5
Milfeed (hull meal)	11.6	*11.8	11.5	13.3	2.8	*2.7

* Revised.

Soybeans: Net receipts, crushings, and stocks at oil mills, by states, December 1959-November 1959 (1,000 tons)

	Net receipts at mills ¹		Crushed or used		Stocks at mills	
	Dec. 1959	Nov. 1959	Dec. 1959	Nov. 1959	Dec. 31, 1959	Nov. 30, 1959
U.S.	828.0	*1,916.6	1,013.7	*1,081.6	3,017.1	*3,202.8
Arkansas	16.5	96.1	28.8	20.1	131.4	143.7
Illinois	221.8	353.0	332.4	356.6	602.9	713.4
Indiana	49.1	(2)	93.1	94.8	(2)	(2)
Iowa	135.8	345.6	159.3	178.3	473.4	497.0
Minnesota	96.9	166.8	85.1	87.1	144.9	133.1
Mississippi	39.1	169.7	30.6	34.9	215.5	207.0
Missouri	19.2	(2)	(2)	(2)	(2)	189.8
Nebraska	(2)	(2)	(2)	(2)	(2)	(2)
North Carolina	52.6	50.5	11.0	(2)	84.0	42.4
Ohio	40.9	113.9	80.3	100.3	336.5	376.0
Tennessee	68.7	232.1	77.1	85.6	287.8	296.1
All other	87.4	*388.9	116.0	*123.9	740.7	*604.3

* Revised. Note: Detail figures may not add to totals because of independent rounding. ¹ Net receipts for each state are derived from the quantity of beans crushed and net change in stocks. ² Included in "All other" to avoid disclosure of figures for individual companies.

Soybean products: Production and stocks at oil mill locations, by states, December 1959-November 1959 (1,000 tons)

	Crude oil (millions of pounds)			Coke and meal (thousands of tons) ¹		
	Production		Stocks	Production		Stocks
	Decem-ber 1959	Novem-ber 1959	Dec. 31, 1959	Decem-ber 1959	Novem-ber 1959	Dec. 31, 1959
U.S.	369.2	*392.6	138.6	*129.9	788.4	*838.6
Arkansas	9.8	7.0	2.1	1.4	21.6	15.5
Illinois	125.2	132.2	46.9	50.8	254.4	270.2
Indiana	34.5	35.0	(2)	(2)	73.3	74.1
Iowa	56.8	64.0	16.0	12.6	126.6	142.4
Minnesota	29.5	30.6	24.9	14.5	65.8	67.4
Mississippi	11.4	12.7	2.1	4.2	24.3	26.8
Missouri	(2)	(2)	(2)	(2)	(2)	(2)
Nebraska	(2)	(2)	(2)	(2)	(2)	(2)
N. Carolina	3.4	(2)	(2)	1.4	8.6	(2)
Ohio	30.5	37.2	8.5	10.5	64.2	79.3
Tennessee	27.6	29.9	4.1	6.0	58.5	65.7
All other	40.5	*44.0	34.0	*28.5	91.1	*97.2

* Revised. Note: Detail figures may not add to totals because of independent rounding. ¹ Includes milfeed (hull meal). ² Included in "All other" to avoid disclosure of figures for individual companies.

PRICE SUPPORT. Quantities of 1959-crop soybeans put under support through December 1959 compared to totals under support a year earlier. From Agricultural Marketing Service.

Warehouse-stored loans	Farm-stored loans	Purchase agreements	Total put under support through Dec. 31, 1959	Total put under support through Dec. 31, 1958
15,925,370	16,718,379	207,923	32,851,672	97,683,948

1959-crop soybeans put under support during the months of December and November 1959 and December 1958:

December 1959	November 1959	December 1958
10,742,393	16,567,007	30,652,367

Of the quantities of 1959-crop soybeans put under support, farmers had repaid loans on 247,579 bushels through Dec. 31. A total of 13,623,487 bushels of 1958-crop soybeans were under resale.

1959-crop soybeans: Amount under price support by states through Dec. 31, 1959. Agricultural Marketing Service.

	Quantity put under loan and purchase agreements		Purchase agreements	Total
	Warehouse	Farm		
Alabama	0	29,345	0	29,345
Arkansas	642,824	1,044,022	0	1,686,846
Delaware	0	123	0	123
Georgia	2,049	19,653	0	21,702
Illinois	3,676,372	2,358,930	62,001	6,097,303
Indiana	420,443	1,015,064	4,300	1,439,807
Iowa	5,078,627	5,970,117	41,650	11,090,394
Kansas	155,992	422,084	1,000	579,076
Kentucky	40,016	74,471	0	114,487
Louisiana	0	4,197	0	4,197
Michigan	18,971	42,603	300	61,874
Minnesota	2,833,634	2,621,675	19,263	5,474,572
Mississippi	361,622	326,501	0	688,123
Missouri	1,801,445	1,460,242	31,235	3,292,922
Nebraska	40,239	113,122	500	153,861
New Jersey	0	2,425	0	2,425
New Mexico	576	0	0	576
New York	0	789	0	789
North Carolina	0	15,744	0	15,744
North Dakota	83,000	243,131	9,774	335,905
Ohio	449,245	666,207	5,450	1,120,902
Oklahoma	77,248	27,737	0	104,985
Pennsylvania	0	1,790	0	1,790
South Carolina	82,085	111,373	0	193,458
South Dakota	20,768	77,264	0	98,032
Tennessee	133,450	48,049	32,450	213,949
Texas	5,682	6,955	0	12,637
Virginia	0	4,483	0	4,483
Wisconsin	1,082	10,283	0	11,365
Total	15,925,370	16,718,379	207,923	32,851,672

MELLORINE. Production of mellorine and other frozen desserts made with fats and oils other than milkfat in the United States was 2,540,000 gallons in December. This was up 23% from December a year earlier and 63% from the 1953-57 average for the month. The 12-months' total production in 1959 was 10% larger than that of 1958 and was 40% greater than the average of the years 1953-57.

Production of "mellorine-type" frozen desserts, United States, 1959

	1953-57 average ¹	1957 ¹	1958 ¹	Esti-mated 1959	Change from: 1953-57 av. 1958
	Thousand gallons				Percent
January	1,626	1,945	2,238	2,325	+43 + 4
February	1,862	2,187	2,335	2,505	+35 + 7
March	2,373	2,512	2,759	3,440	+45 + 25
April	2,568	2,866	3,415	3,685	+43 + 8
May	3,051	3,520	4,105	4,335	+42 + 6
June	3,534	3,591	4,382	4,955	+40 + 13
July	3,742	4,361	4,766	5,125	+37 + 8
August	3,610	4,034	4,459	4,635	+28 + 4
September	2,945	3,024	3,808	4,180	+42 + 10
October	2,457	2,491	3,015	3,340	+36 + 11
November	1,767	1,846	2,228	2,385	+35 + 7
December	1,560	1,784	2,061	2,540	+63 + 23
Twelve-month total	31,095	34,161	39,571	43,450	+40 + 10

¹ From enumerations. Agricultural Marketing Service.

PRICES. Average prices for soybeans received by farmers, effective parity, and support rates, reported by Agricultural Marketing Service (dollars per bushel).

	Effective parity		Av. price as percent of parity		National average price support rate	
	Dec. 15, 1959	Nov. 15, 1959	Dec. 15, 1959	Nov. 15, 1959	1958 crop	1957 crop
1.98	2.00	1.97	2.89	69	1.85	2.09

Average farm and parity prices from crop reporting board.

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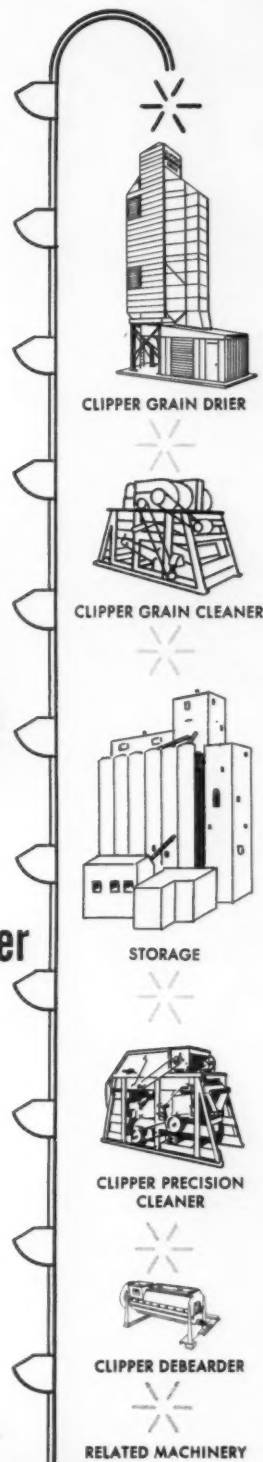


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